



CONSUMER SERVICES TECHNICAL
EDUCATION GROUP PRESENTS

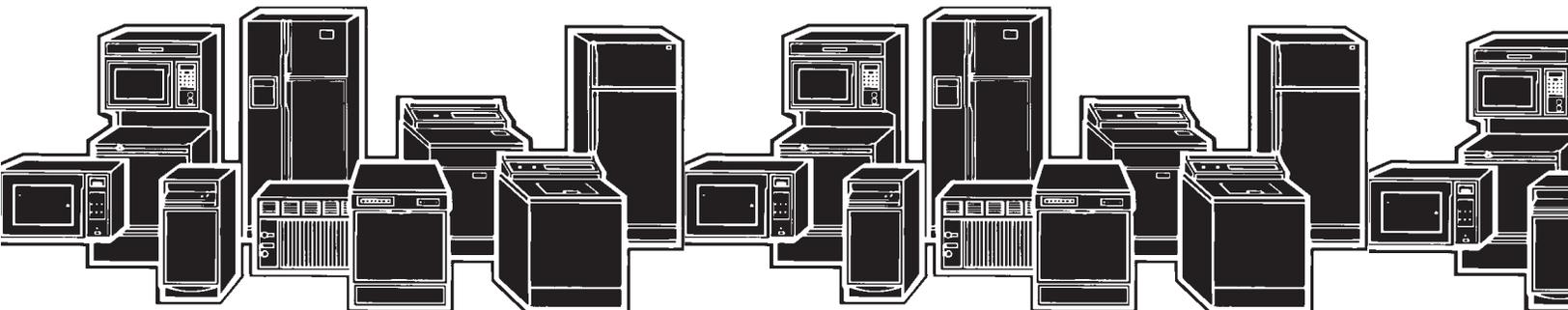
KR-38

SLIDE-IN ELECTRIC RANGE



Models RS160LXT*, RY160LXT*

JOB AID
Part No. 8178710



FORWARD

This Whirlpool Job Aid “Slide in Electric Range” (Part No. 8178710), provides the In-Home Service Professional with information on the installation, operation, and service of the Slide in Electric Range. For specific information on the model being serviced, refer to the “Use and Care Guide,” or “Wiring Diagram” provided with the cooktop.

The Wiring Diagrams used in this Job Aid are typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the Slide in Electric Range.

GOALS AND OBJECTIVES

The goal of this Job Aid is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the Slide in Electric Range.

The objectives of this Job Aid are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the Slide in Electric Range to its proper operational status.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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GENERAL

SLIDE-RANGE SAFETY

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on the appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

! DANGER

You can be killed or seriously injured if you don't immediately follow instructions.

! WARNING

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

MODEL & SERIAL NUMBER DESIGNATIONS

MODEL NUMBER	R	Y	1	6	0	L	X	T	W	0
PRODUCT IDENTIFICATION										
R = ELECTRIC RANGES										
S = GAS RANGES										
G = WHIRLPOOL GOLD										
PRODUCT IDENTIFICATION										
A = ACCESSORY K = KITS										
B = BUILT-IN M = MV COMBO										
C = COOK TOP S = SET-IN										
E = EYE-LEVEL W = GAS SLIDE-IN										
F = FREE-STANDING Y = ELEC SLIDE-IN										
MODEL SIZE										
0 = 20" OR 24" FREE-STANDING										
1 = 24" OR 27" BUILT-IN OVEN (BEFORE 1996)										
1 = 30" IMPERIAL SERIES FREESTANDING (1996 AND LATER)										
2 = 30" BUILT-IN OVEN (BEFORE 1996)										
2 = 30" FREE-STANDING(1996 AND LATER)										
3 = 30" FREE-STANDING										
4 = 40" FREE-STANDING										
5 = 36" FREE-STANDING										
6 = 30" SET-IN RANGES										
OVEN TYPE (DOES NOT APPLY TO COUNTERTOPS)										
0 THRU 3 = STANDARD PORCELAIN										
2 THRU 5 = CONTINUOUS CLEAN (BEFORE 1996)										
4 THRU 9 = PYROLYTIC SELF-CLEAN										
FEATURE/VARIATIONS										
ELECTRIC										
0,1,2,5,7 = COIL ELEMENTS										
DOOR TYPE										
B = SOLID BLACK GLASS 0 = METAL OVEN DOOR										
L = LARGE WINDOW P = STANDARD WINDOW GLASS										
FEATURE CODE										
E = ELECTRONIC IGNITION (GAS ONLY) X = NOT DEFINED										
S = STANDING IGNITION (GAS ONLY)										
C = COLOR COORDINATED GLASS (BEFORE 1998)										
YEAR OF INTRODUCTION										
T = 2007										
COLOR CODE										
W = White										
ENGINEERING CHANGE (NUMERIC)										

SERIAL NUMBER	FM	U	24	01234
DIVISION RESPONSIBILITY				
FM = CLEVELAND				
YEAR OF PRODUCTION				
U = 2007				
WEEK OF PRODUCTION				
24 = 24TH WEEK				
PRODUCT SEQUENCE NUMBER				

MODEL & SERIAL NUMBER LABEL AND WIRING DIAGRAM LOCATIONS

The Model/Serial Number label and Wiring Diagram locations are shown below.



SPECIFICATIONS

Model	RS160LXT, RY160LXT
Color	Q (wht), B (Blk), S (SS)
Model Description	Slide-In 30" Electric Coil, Pyro
COOKTOP	
Cooking Surface	Coil
Number of Elements	4
Drip Bowls	Chrome
6" Coil (3 turn)	RR, LF
8" Coil (4 Turn)	RF, LR
Indicator Lights	2
Controls	
Type of Display	LED
Kitchen Timer	1
Control Lock Out	Yes
OVEN	
Type of Clean	Self Clean
Delay Clean	Yes
Convection	No
Sabbath Mode	Yes
Keep Warm	Yes
Cook & Hold	Yes
Door Lock Mechanism	Manual
Closed door broiling	No
Recessed Broil element	Yes
Broil Element Number of Passes	6
Broil Pan Included	No
Oven Light	Manual
Oven light type	Incandescent
Control Panel	
Number of Knobs	4
Oven Light Switch	Rocker
DOOR	
Window	Std
Finish	Glass/SS on SS
Frameless	Yes
Drawer	
Storage Drawer	Yes
Storage Drawer Finish	Paint

INSTALLATION INFORMATION

INSTALLATION REQUIREMENTS

Tools and Parts

Gather the required tools and parts before starting installation. Read and follow the instructions provided with any tools listed here.

Tools Needed

- Tape measure
- Level
- Phillips screwdriver
- Flat-blade screwdriver
- Wrench or pliers
- 3/8" nut driver
- Hand or electric drill
- 1/8" (3.2 mm) drill bit

Parts supplied

Check that all parts are included.

- 3 - 10–32 hex nuts (attached to terminal block)
- 3 - Terminal lugs
- 2 - Oven racks
- 2 - #12 x 1 5/8" screws (for mounting anti-tip bracket)
- Anti-tip bracket (taped inside storage drawer)

Anti-tip brackets must be securely mounted to back wall or floor. Thickness of floor may require longer screws to anchor bracket to sub-floor. Longer screws are available from your local hardware store.

Parts needed

If using a power supply cord:

- A UL listed power supply cord kit marked for use with ranges.

The cord should be rated at 250 volts minimum, 40 amps or 50 amps that is marked for use with nominal 1 3/8" (3.5 cm) diameter connection opening and must end in ring terminals or open-end spade terminals with upturned ends.

- A UL listed strain relief.

Check local codes. Check existing electrical supply. See "Electrical Requirements" on page 2-5. It is recommended that all electrical connections should be made by a licensed, qualified electrical installer.

Location Requirements

IMPORTANT: Observe all governing codes and ordinances.

- It is the installer's responsibility to comply with installation clearances specified on the model/serial rating plate. The model/serial rating plate is located on the right-hand side of the oven frame behind the storage drawer panel.
- The range should be located for convenient use in the kitchen.
- To eliminate the risk of burns or fire by reaching over heated surface units, cabinet storage space located above the surface units should be avoided. If cabinet storage is to be provided, the risk can be reduced by installing a range hood that projects horizontally a minimum of 5" (12.7 cm) beyond the bottom of the cabinets.
- Cabinet opening dimensions that are shown must be used. Given dimensions are minimum clearances.
- The floor anti-tip bracket must be installed. To install the antitip bracket shipped with the range, see "Install Anti-Tip Bracket" section.
- Grounded electrical supply is required. See "Electrical Requirements" section.

IMPORTANT: To avoid damage to your cabinets, check with your builder or cabinet supplier to make sure that the materials used will not discolor, delaminate or sustain other damage. This oven has been designed in accordance with the requirements of UL and CSA International and complies with the maximum allowable wood cabinet temperatures of 194°F (90°C).

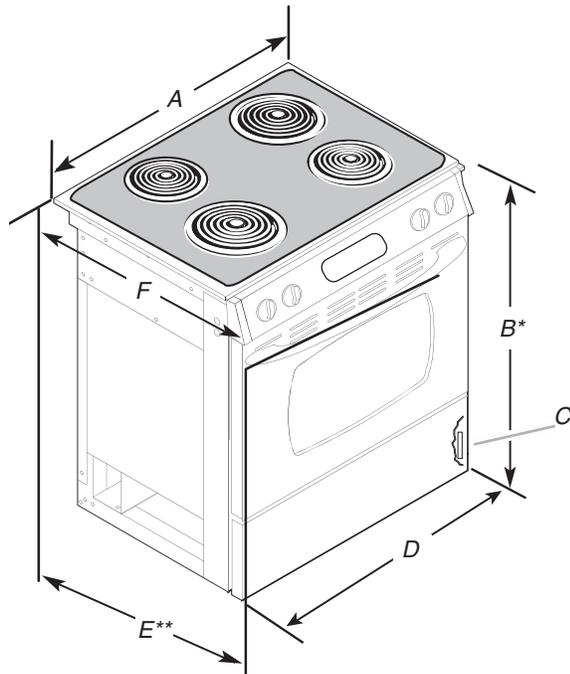
Mobile Home - Additional Installation Requirements

The installation of this range must conform to the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 (formerly the Federal Standard for Mobile Home Construction and Safety, Title 24, HUD Part 280). When such standard is not applicable, the Standard for Manufactured Home Installations, ANSI A225.1/NFPA 501A or with local codes.

Mobile home installations require:

- When this range is installed in a mobile home, it must be secured to the floor during transit. Any method of securing the range is adequate as long as it conforms to the standards listed above.
- Four-wire power supply cord or cable must be used in a mobile home installation. The appliance wiring will need to be revised. See "Electrical Connection" on page 2-5.

Product Dimensions



- A. $30\frac{3}{4}$ " (78 cm)
- B. $35\frac{3}{4}$ " (90.8 cm) height to underside of cooktop edge with leveling legs screwed all the way in*
- C. Model/serial number plate (located behind the storage drawer on the right-hand side of the oven frame)
- D. $29\frac{7}{8}$ " (75.9 cm)
- E. $28\frac{5}{16}$ " (75.9 cm) from handle to standoff at back of range**
- F. $23\frac{3}{4}$ " (60.3 cm) countertop notch to rear of cooktop

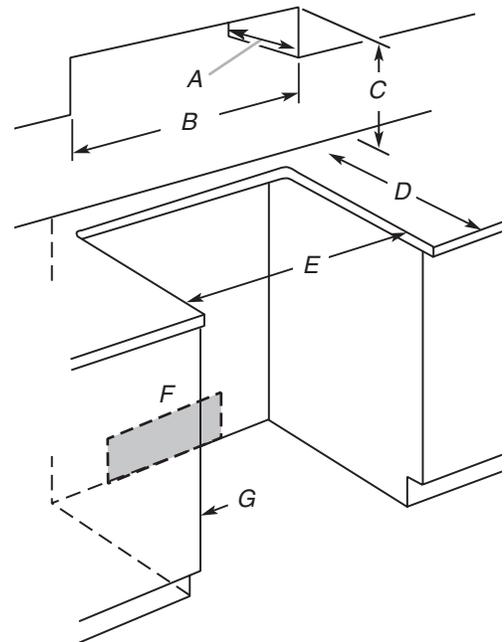
*Range can be raised approximately 1" (2.5 cm) by adjusting the leveling legs.

**When installed in a 24" (61 cm) base cabinet with 25" (63.5 cm) countertop; front of oven door protrudes 2 1/2" (6.4 cm) beyond 24" (61 cm) base cabinet.

Cabinet Dimensions

Cabinet opening dimensions shown are for 25" (64 cm) countertop depth, 24" (61 cm) base cabinet depth and 36" (91.4 cm) countertop height.

If installing a range hood or microwave hood combination above the range, follow the range hood or microwave hood combination installation instructions for dimensional clearances above the cooktop surface.



- A. 13" (33 cm) upper cabinet depth
- B. 30" (76.2 cm) min. opening width
- C. For minimum clearance to the top of the cooktop, see NOTE*.
- D. $23\frac{1}{4}$ " (58.1 cm) opening depth
- E. 30" (76.2 cm) min. opening width
- F. Junction box - 5.5" (14 cm) min. from either cabinet, 10" (25.4 cm) max. from floor. Outlet must be flush. Nothing located in shaded area can extend more than 2" (5.1 cm) from wall or range will not slide all the way back.
- G. Cabinet door or hinge should not extend into cutout.

NOTE: 24" (61 cm) minimum when bottom of wood or metal cabinet is protected by not less than 1/4" (0.64 cm) flame retardant millboard covered with not less than No. 28 MSG sheet steel, 0.015" (0.4 mm) stainless steel, 0.024" (0.6 mm) aluminum or 0.020" (0.5 mm) copper.

30" (76.2 cm) minimum clearance between the top of the cooking platform and the bottom of an unprotected wood or metal cabinet

Electrical Requirements

If codes permit and a separate ground wire is used, it is recommended that a qualified electrical installer determine that the ground path is adequate and wire gauge is in accordance with local codes.

Do not use an extension cord.

Be sure that the electrical connection and wire size are adequate and in conformance with the National Electrical Code, ANSI/NFPA 70-latest edition and all local codes and ordinances.

A copy of the above code standards can be obtained from:

National Fire Protection Association
One Battery march Park
Quincy, MA 02269

Electrical Connection

To properly install your range, you must determine the type of electrical connection you will be using and follow the instructions provided for it here.

- Range must be connected to the proper electrical voltage and frequency as specified on the model/serial number rating plate. (The model/serial number rating plate is located on the oven frame behind the storage drawer panel.)
- When a 4-wire or 3-wire, single phase 120/240 volt, 60 Hz, AC only electrical supply is available, a 50-amp maximum circuit protection is required (or, if specified on the model/ serial rating plate, when a 4-wire or 3-wire single phase 120/208 volt 60 Hz, AC only electrical supply is available, a 40- or 50-amp maximum circuit protection is required), fused on both sides of the line.
- A time-delay fuse or circuit breaker is recommended.
- The range can be connected directly to the fused disconnect (or circuit breaker box) through flexible or nonmetallic sheathed, copper or aluminum cable. See “Electrical Connection.”

- Allow 2 to 3 ft (61.0 cm to 91.4 cm) of slack in the line so that the range can be moved if servicing is ever necessary.
- A UL listed conduit connector must be provided at each end of the power supply cable (at the range and at the junction box).
- Wire sizes and connections must conform with the rating of the range (40 amps).
- The wiring diagram is located on the underside of the storage drawer or below the warming drawer in a clear plastic bag.

If using a power supply cord:

- A UL listed power supply cord kit marked for use with ranges. The cord should be rated at 250 volts minimum, 40 amps or 50 amps that is marked for use with nominal 1 3/8" (3.5 cm) diameter connection opening and must end in ring terminals or open-end spade terminals with upturned ends.
- A UL listed strain relief.

If connecting to a 4-wire system:

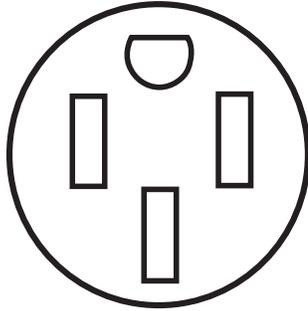
This range is manufactured with the ground connected to the cabinet. The ground must be revised so the green ground wire of the 4-wire power supply cord is connected to the cabinet. See “Electrical Connection.”

Grounding through the neutral conductor is prohibited for new branch-circuit installations (1996 NEC); mobile homes; and recreational vehicles, or an area where local codes prohibit grounding through the neutral conductor.

When a 4-wire receptacle of NEMA Type 14-50R is used, a matching UL listed, 4-wire, 250 volt, 40-amp, range power supply cord (pigtail) must be used. This cord contains 4 copper conductors with ring terminals or open-end spade terminals with upturned ends, terminating in a NEMA Type 14-50R plug on the supply end.

The fourth (grounding) conductor must be identified by a green or green/yellow cover and the neutral conductor by a white cover.

The cord should be Type SRD or SRDT with a UL listed strain relief and be at least 4 ft (1.22 m) long.



4-wire receptacle (14-50R)

The minimum conductor sized for the copper 4-wire power cord are:

40-amp circuit

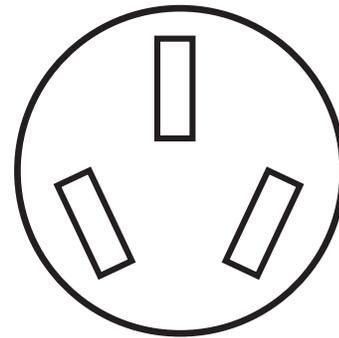
2 No.-8 conductors

1 No.-10 white neutral

1 No.-8 green grounding

If connecting to a 3-wire system:

Local codes may permit the use of a UL listed, 3-wire, 250 volt, 40-amp range power supply cord (pigtail). This cord contains 3 copper conductors with ring terminals or open-end spade terminals with upturned ends, terminating in a NEMA Type 10-50P plug on the supply end. Connectors on the appliance end must be provided at the point the power supply cord enters the appliance. This uses a 3-wire receptacle of NEMA Type 10-50R.



3-wire receptacle (10-50R)

INSTALLATION INSTRUCTIONS

Electrical Connection

Power Supply Cord

! WARNING



Electrical Shock Hazard

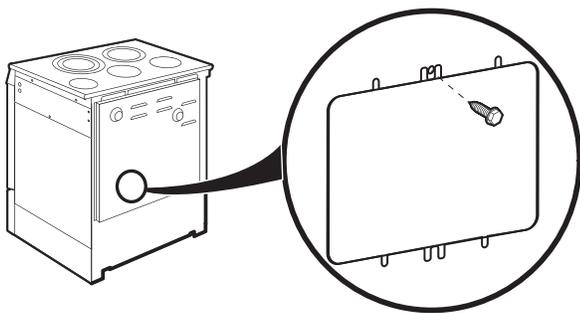
Disconnect power before servicing.

Use a new 40 amp power supply cord.

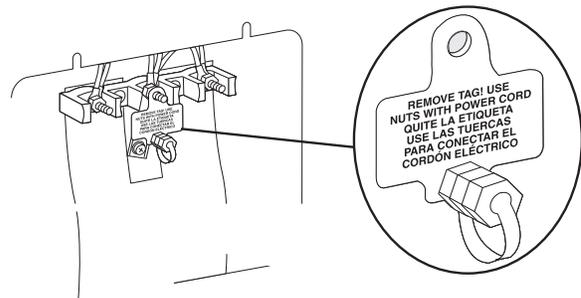
Plug into a grounded outlet.

Failure to follow these instructions can result in death, fire, or electrical shock.

1. Disconnect power.
2. Use Phillips screwdriver to remove the terminal block cover screw located on the back of the range. Pull cover down and toward you to remove cover.



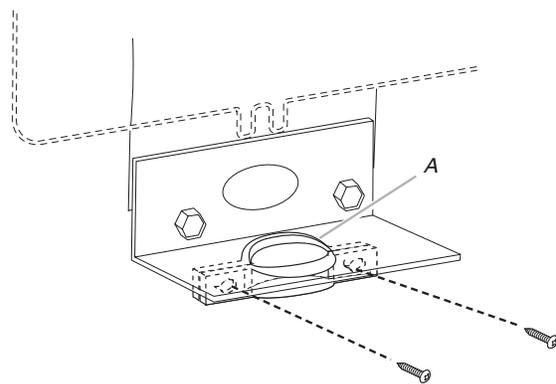
3. Remove plastic tag holding three 10-32 hex nuts from the middle post of the terminal block.



4. Add strain relief.

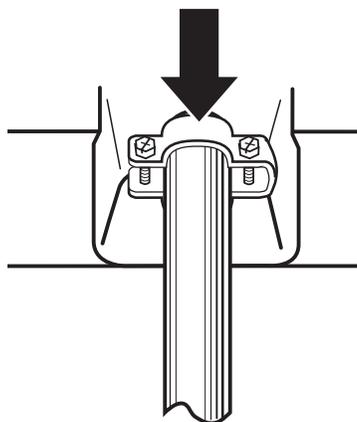
Style 1: Power supply cord strain relief

- Assemble a UL listed strain relief in the opening.



A. UL listed strain relief

- Feed the power supply cord through the opening in the cord/conduit plate on bottom of range. Allow enough slack to easily attach the wiring to the terminal block.
- Tighten strain relief screw against the power supply cord.



Direct Wire

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

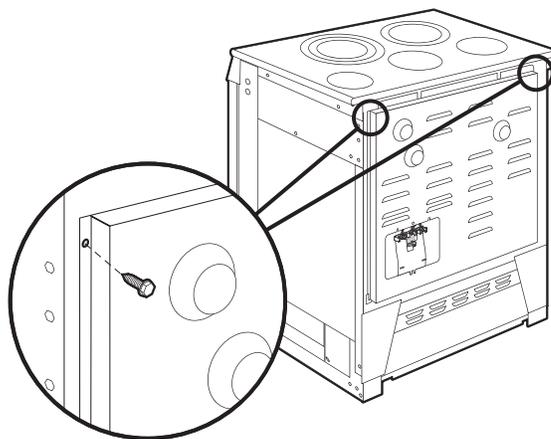
Use 8 gauge copper wire.

Electrically ground cooktop.

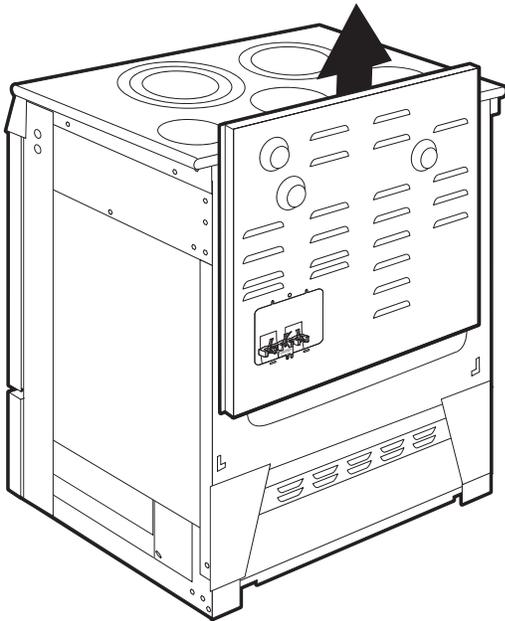
Failure to follow these instructions can result in death, fire, or electrical shock.

Style 2: Direct wire strain relief

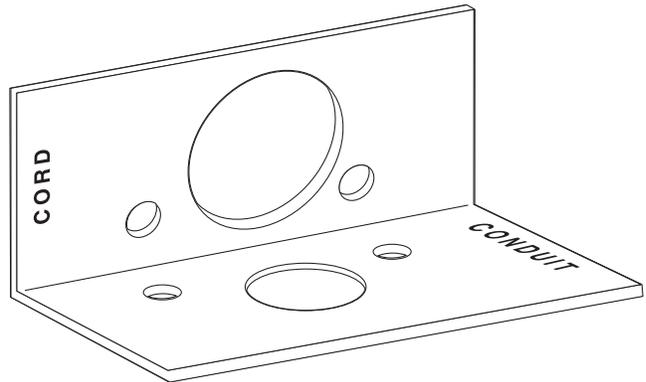
- Use Phillips screwdriver to remove screws from panel on back of range.



- Lift range back panel up and off.

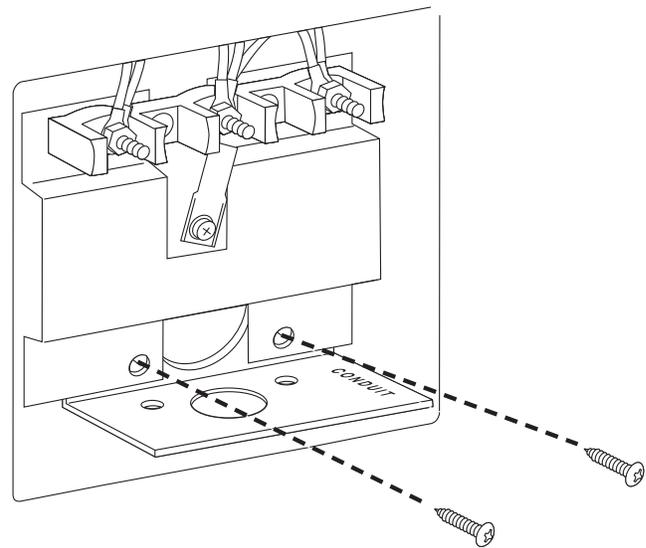
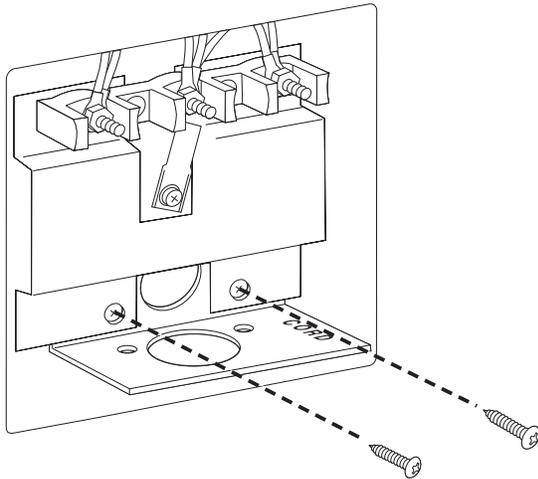


- Position cord/conduit plate as shown in the following illustration.

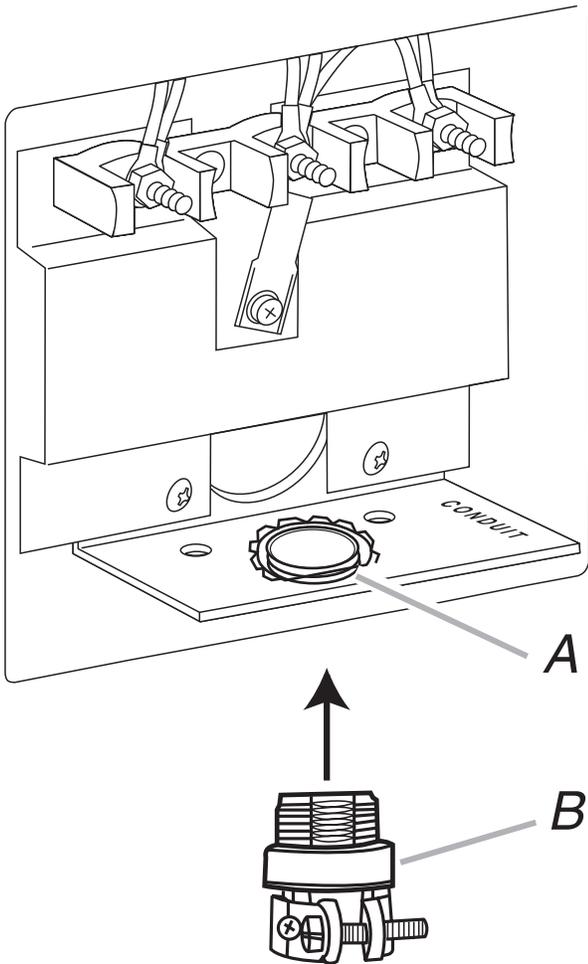


- Replace cord/conduit plate and insert screws.

- Use Phillips screwdriver to remove screws and slide cord/conduit plate down and out.

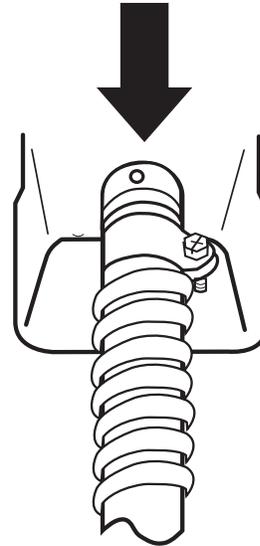


- Assemble a UL listed conduit connector in the opening.



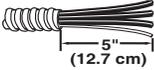
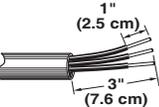
A. Removable retaining nut
 B. Strain relief

- Feed the flexible conduit through the strain relief, allowing enough slack to easily attach wiring to the terminal block.
- Tighten strain relief screw against the flexible conduit.



5. Replace back panel and screws on rear of range.
6. Complete installation following instructions for your type of electrical connection:
 4-wire (recommended)
 3-wire (if 4-wire is not available)

Electrical Connection Options

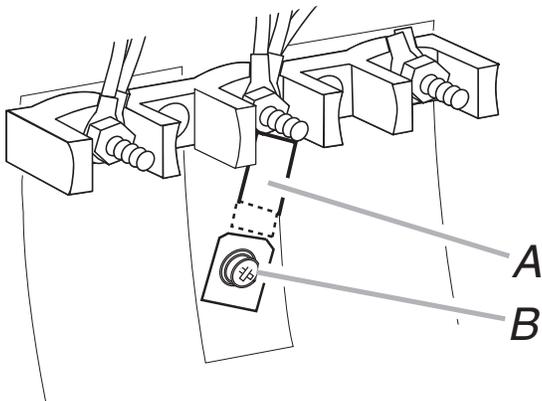
If your home has:	And you will be connecting to:	Go to Section:
4-wire receptacle (NEMA type 14-50R) 	A UL listed, 250-volt minimum, 40-amp, range power supply cord	4-wire connection: Power supply cord
4-wire direct 	A fused disconnect or circuit breaker box	4-wire connection: Direct wire
3-wire receptacle (NEMA type 10-50R) 	A UL listed, 250-volt minimum, 40-amp, range power supply cord	3-wire connection: Power supply cord
3-wire direct 	A fused disconnect or circuit breaker box	3-wire connection: Direct wire

4-wire connection: Power Supply Cord

Use this method for:

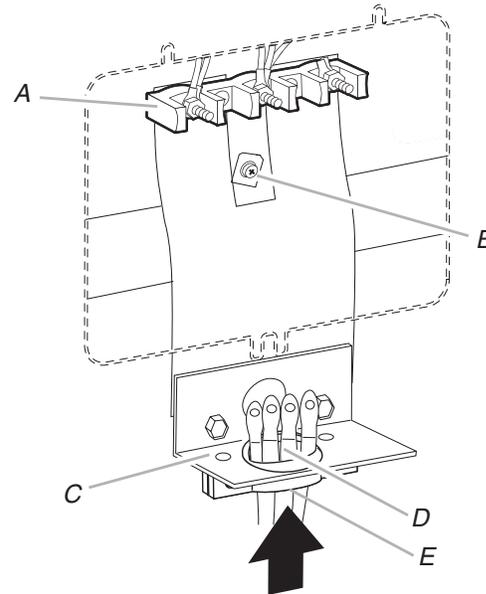
- New branch-circuit installations (1996 NEC)
- Mobile homes
- Recreational vehicles
- In an area where local codes prohibit grounding through the neutral

1. Part of metal ground strap must be cut out and removed.



A. Metal ground strap
B. Ground-link screw

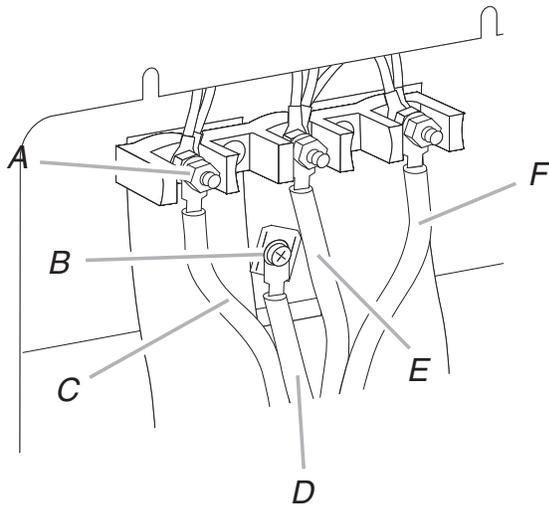
2. Use Phillips screwdriver to remove the ground-link screw from the back of the range. Save the ground-link screw.
3. Feed the power supply cord through the opening in the cord/conduit plate on bottom of range. Allow enough slack to easily attach the wiring to the terminal block.



A. Terminal block
B. Ground-link screw
C. Cord/conduit plate
D. Power supply cord wires
E. Strain Relief

4. Use Phillips screwdriver to connect the green ground wire from the power supply cord to the range with the ground-link screw. The ground wire must be attached first.

- Use 3/8" nut driver to connect the neutral (white) wire to the center terminal block post with one of the 10–32 hex nuts.



- | | |
|----------------------|--------------------------|
| A. 10–32 hex nut | D. Green ground wire |
| B. Ground-link screw | E. Neutral (center) wire |
| C. Line 1 (black) | F. Line 2 (red) |

- Connect line 1 (black) and line 2 (red) wires to the outer terminal block posts with 10-32 hex nuts.
- Securely tighten hex nuts.

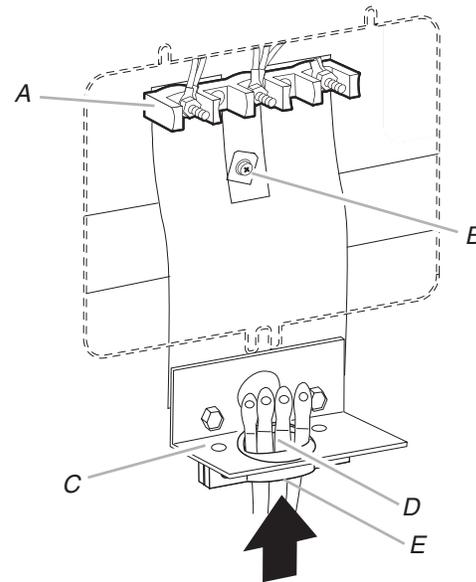
NOTE: For power supply cord replacement, only use a power cord rated at 250 volts minimum, 40 amps or 50 amps that is marked for use with nominal 3/8" (3.5 cm) diameter connection opening, with ring terminals and marked for use with ranges.

- Replace terminal block access cover.

3-wire connection: Power Supply Cord

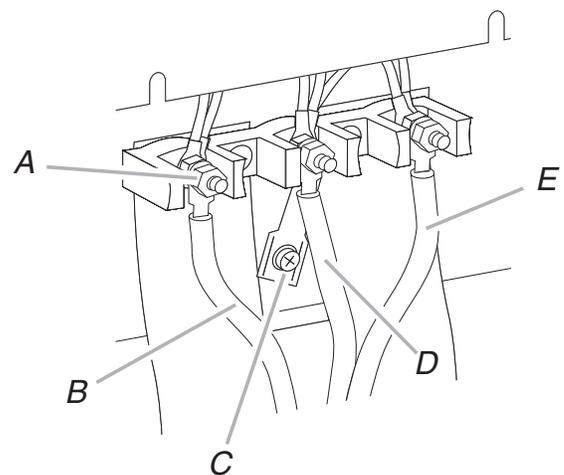
Use this method only if local codes permit connecting chassis ground conductor to neutral wire of power supply cord.

- Feed the power supply cord through the opening in the cord/conduit plate on bottom of range. Allow enough slack to easily attach the wiring to the terminal block.



- | |
|----------------------------|
| A. Terminal block |
| B. Ground-link screw |
| C. Cord/conduit plate |
| D. Power supply cord wires |
| E. Strain Relief |

- Use 3/8" nut driver to connect the neutral (white) wire to the center terminal block post with one of the 10–32 hex nuts.



- | | |
|----------------------|-------------------------|
| A. 10–32 hex nut | D. Neutral (white) wire |
| B. Line 1 (black) | E. Line 2 (red) |
| C. Ground-link screw | |

3. Connect line 1 (black) and line 2 (red) wires to the outer terminal block posts with 10-32 hex nuts.
4. Securely tighten hex nuts.

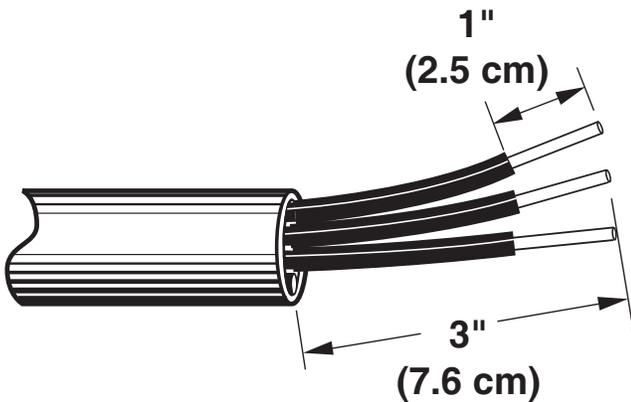
NOTE: For power supply cord replacement, only use a power cord rated at 250 volts minimum, 40 amps or 50 amps that is marked for use with nominal 3/8" (3.5 cm) diameter connection opening, with ring terminals and marked for use with ranges.

5. Replace terminal block access cover.

**Direct Wire Installation:
Copper or Aluminum Wire**

This range may be connected directly to the fuse disconnect or circuit breaker box. Depending on your electrical supply, make the required 3-wire or 4-wire connection.

1. Strip outer covering back 3" (7.6 cm) to expose wires. Strip the insulation back 1" (2.5 cm) from the end of each wire.



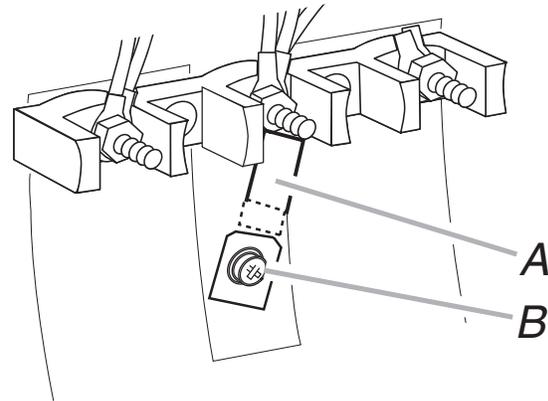
2. Allow enough slack in the wire to easily attach the wiring terminal block.
3. Complete electrical connection according to your type of electrical supply (4-wire or 3-wire connection).

4-wire Connection: Direct Wire

Use this method for: New branch-circuit installations (1996 NEC)

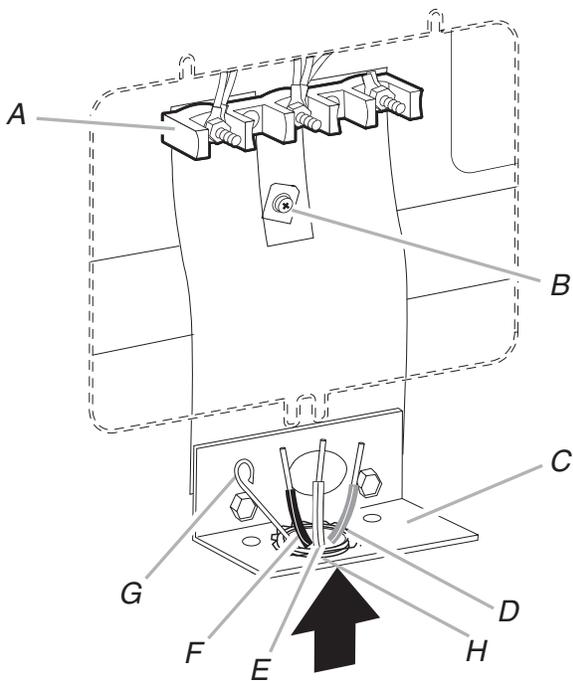
- Mobile homes
- Recreational vehicles
- In an area where local codes prohibit grounding through the neutral

1. Part of metal ground strap must be cut out and removed.



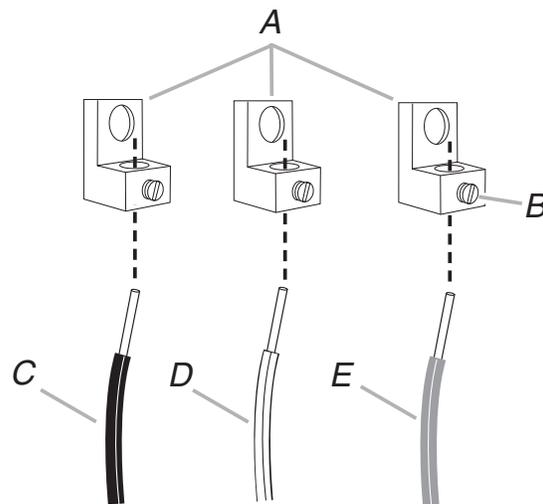
- A. Metal ground strap
- B. Ground-link screw

- Use Phillips screwdriver to remove the ground-link screw from the back of the range. Save the ground link screw and discard the remaining end of the ground link.
- Pull the conduit through the strain relief on cord/conduit plate on bottom of range. Allow enough slack to easily attach wiring to the terminal block.



- | | |
|-----------------------|-----------------------------|
| A. Terminal block | E. Neutral (white) wire |
| B. Ground-link screw | F. Line 1 (black) wire |
| C. Cord/conduit plate | G. Bare (green) ground wire |
| D. Line 2 (red) wire | H. Strain Relief |

- Attach terminal lugs to line 1 (black), neutral (white), and line 2 (red) wires. Loosen (do not remove) the set screw on the front of the terminal lug and insert exposed wire end through bottom of terminal lugs. Securely tighten set screw to 10 lbs in. torque. See Bare Wire Torque Specifications chart.



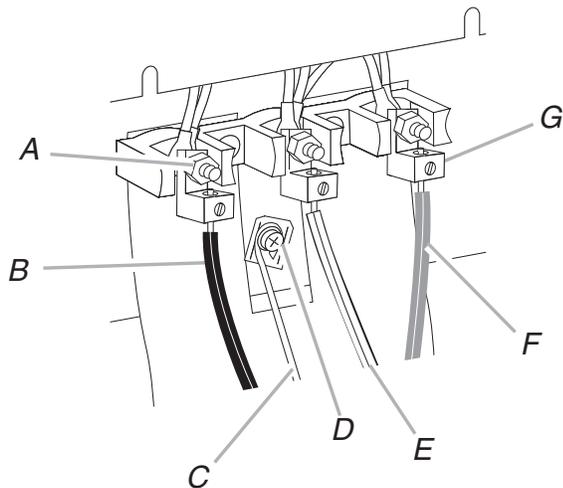
- | |
|-------------------------|
| A. Terminal lug |
| B. Set screw |
| C. Line 1 (black) wire |
| D. Neutral (white) wire |
| E. Line 2 (red) wire |

Bare Wire Torque Specifications

Attaching terminal lugs to the terminal block - 20 lbs-in. (2.3 N-m)

Wire Awg	Torque
8 gauge copper	25 lbs-in. (2.8 N-m)
6 gauge aluminum	35 lbs-in. (4.0 N-m)

- Use Phillips screwdriver to connect the bare (green) ground wire to the range with the ground-link screw. The ground wire must be attached first and must not contact any other terminal.
- Use 3/8" nut driver to connect the neutral (white) wire to the center terminal block post with one of the 10–32 hex nuts.



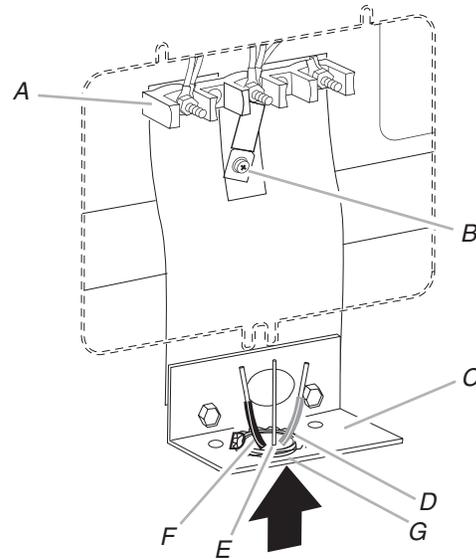
- | | |
|-----------------------------|-------------------------|
| A. 10–32 hex nut | E. Neutral (white) wire |
| B. Line 1 (black) | F. Line 2 (red) |
| C. Bare (green) ground wire | G. Terminal lug |
| D. Ground-link screw | |

- Connect line 1 (black) and line 2 (red) wires to the outer terminal block posts with 10-32 hex nuts.
- Securely tighten hex nuts.
- Replace terminal block access cover.

3-wire connection: Direct Wire

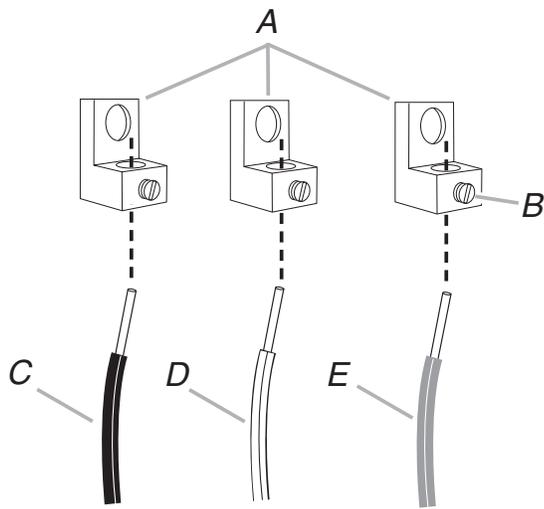
Use this method only if local codes permit connecting ground conductor to neutral supply wire.

- Pull the conduit through the hole and conduit plate on bottom of range. Allow enough slack to easily attach the wiring to the terminal block.



- | | |
|-----------------------|-----------------------------|
| A. Terminal block | D. Line 2 (red) wire |
| B. Ground-link screw | E. Bare (green) ground wire |
| C. Cord/conduit plate | F. Line 1 (black) wire |
| | G. Strain Relief |

- Attach terminal lugs to line 1 (black), bare (green) ground, and line 2 (red) wires. Loosen (do not remove) the set screw on the front of the terminal lug and insert exposed wire end through bottom of terminal lugs. Securely tighten set screw to 10 lbs-in. torque. See Bare Wire Torque Specifications chart.



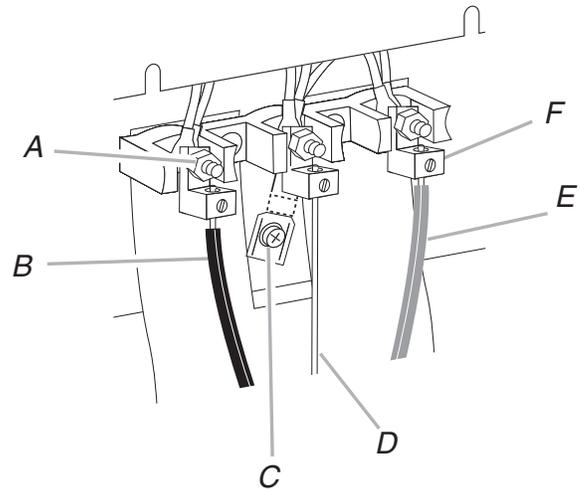
- A. Terminal lug
- B. Set screw
- C. Line 1 (black) wire
- D. Neutral (white) wire
- E. Line 2 (red) wire

Bare Wire Torque Specifications

Attaching terminal lugs to the terminal block - 20 lbs-in. (2.3 N-m)

Wire Awg	Torque
8 gauge copper	25 lbs-in. (2.8 N-m)
6 gauge aluminum	35 lbs-in. (4.0 N-m)

3. Use 3/8" nut driver to connect the bare (green) ground wire to the center terminal block post with one of the 10-32 hex nuts.

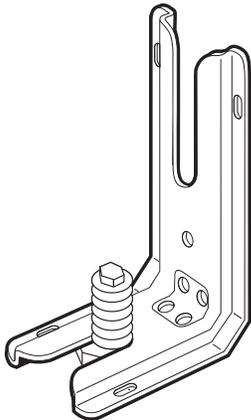


- A. 10-32 hex nut
- B. Line 1 (black)
- C. Ground-link screw
- D. Bare (green) ground wire
- E. Line 2 (red)
- F. Terminal lug

4. Connect line 1 (black) and line 2 (red) wires to the outer terminal block posts with 10-32 hex nuts.
5. Securely tighten hex nuts.
6. Replace terminal block access cover.

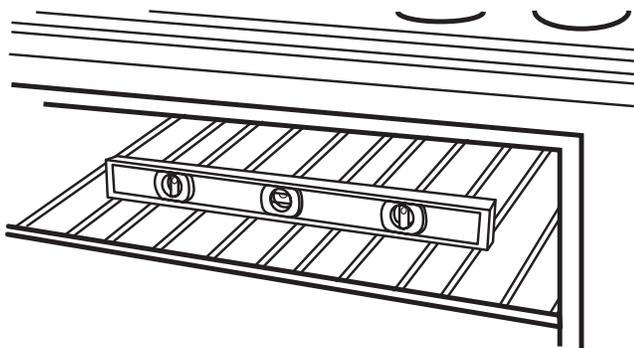
Verify Anti-Tip Bracket Location

1. Making sure the anti-tip bracket is installed:
 - Look for the anti-tip bracket securely attached to floor or wall.
 - Slide range back so rear range foot is engaged with anti-tip bracket



Level Range

Place rack in oven. Place level on rack and check levelness of range, first side to side; then front to back.



If range is not level, pull range forward until rear leveling leg is removed from the anti-tip bracket.

Use wrench to adjust leveling legs up or down until range is level. Push range back into position. Check that rear leveling leg is engaged in anti-tip bracket.

NOTE: Range must be level for satisfactory baking conditions.

Complete Installation

1. Check that all parts are now installed. If there is an extra part, go back through the steps to see which step was skipped.
2. Check that you have all of your tools.
3. Dispose of/recycle all packaging materials.
4. Check that the range is level. See “Level Range.”
5. Use a mild solution of liquid household cleaner and warm water to remove waxy residue caused by protective shipping material. Dry thoroughly with a soft cloth. For more information, read the “Range Care” section of the Use and Care Guide.
6. Read “Range Use” in the range Use and Care Guide.
7. Plug power cord into appropriate outlet. Slide range into its final location. Check that the flexible conduit or power supply cord are not bent.
8. Replace storage drawer.
9. Turn power on. Turn on surface burners and oven. See the Use and Care Guide for specific instruction on range operation.

If range does not operate, check the following:

- Household fuse is intact and tight; or circuit breaker has not tripped.
- Range is plugged into an outlet.
- Electrical supply is connected.
- See “Troubleshooting” in the Use and Care Guide.

When the range has been on for 5 minutes, check for heat. If range is cold, turn off the range and contact a qualified technician.

Moving the Range

! WARNING



Tip Over Hazard

A child or adult can tip the range and be killed.

Connect anti-tip bracket to rear range foot.

Reconnect the anti-tip bracket, if the range is moved.

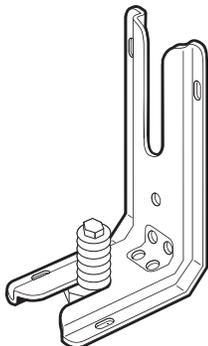
Failure to follow these instructions can result in death or serious burns to children and adults.

When moving range, slide range onto cardboard or hardboard to avoid damaging the floor covering.

If removing the range is necessary for cleaning or maintenance:

For power supply cord-connected ranges:

1. Unplug the power supply cord.
2. Slide range forward to complete cleaning or maintenance.
3. Check that anti-tip bracket is installed:
 - Look for the anti-tip bracket securely attached to floor or wall.
 - Slide range back so rear range foot is under anti-tip bracket.



4. Check that range is level.

For direct-wired ranges:

! WARNING



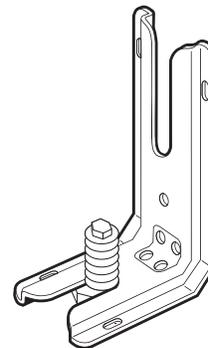
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to follow these instructions can result in death, fire, or electrical shock.

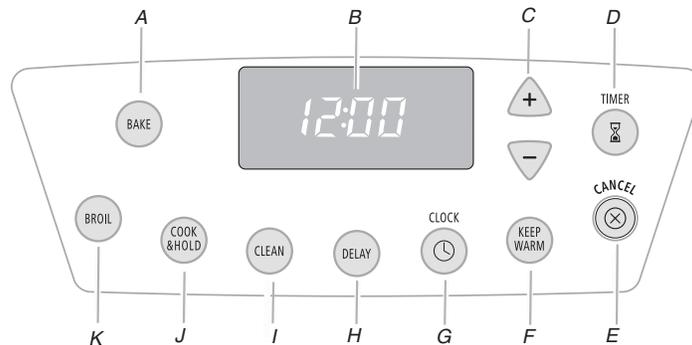
1. Disconnect power.
2. Disconnect wiring.
3. Slide range forward to complete cleaning or maintenance.
4. Check that anti-tip bracket is installed:
 - Look for the anti-tip bracket securely attached to floor or wall.
 - Slide range back so rear range foot is under anti-tip bracket.



5. Check that range is level.

— NOTES —

PRODUCT OPERATION



- | | | |
|------------------------------|--------------|---------------------------|
| A. Bake | E. Cancel | I. Clean (on some models) |
| B. Clock/timer display | F. Keep warm | J. Cook & hold |
| C. More (+)/less (-) buttons | G. Clock | K. Broil |
| D. Timer | H. Delay | |

ELECTRONIC OVEN CONTROL

DISPLAY

When power is supplied to the range or after a power interruption, the last clock time before power was interrupted will flash.

Bake or Lock may flash rapidly in the display to alert you if there is an error or problem. Press CANCEL and reset clock if needed.

When the oven is in use, the display shows the temperature and oven setting.

When the oven is not in use, the display shows the time of day.

When using the TIMER, for settings of 1 to 59 minutes, the display will count down in minutes. The last minute will count down in seconds. For settings of 1 hour or more, the display will count down hours and minutes.

CANCEL

The CANCEL button stops any function except the Clock, Timer and Control Lock. When you press the CANCEL button, the display will show the time of day, or the time remaining if the TIMER is being used.

CLOCK

The clock can be set to display time in a 12-hour or 24-hour format. The clock is set at the factory for the 12-hour format.

To recall the time of day when another time function is showing, press the Clock pad.

Clock time cannot be changed when the oven has been programmed for Delay Cook, Clean, or Cook & Hold.

To Change the Clock to 24-hour Format:

1. Press and hold CANCEL and DELAY for 3 seconds.
2. Press the "up" or "down" arrow pad to select 24 hour.

To Set:

1. Press CLOCK. The colon will flash in the display.
2. Press the "up" or "down" arrow pads to set the time of day.
3. Press CLOCK or wait 4 seconds. The colon stops flashing.

To Cancel the Clock Display:

If you do not want the time of day to display: Press and hold CANCEL and CLOCK for 3 seconds. the time of day will disappear from the display.

CONTROL LOCK

The Control Lock shuts down the control panel pads (buttons) to prevent unintended use of the oven(s).

The Control Lock is preset unlocked, but can be locked.

If the oven is currently in use, the controls cannot be locked.

To Lock/Unlock Control:

Press and hold CANCEL and COOK & HOLD for 3 seconds (Press the CANCEL pad first.) Repeat to unlock.

OVEN TEMPERATURE CONTROL

IMPORTANT: Do not use a thermometer to measure oven temperature because opening the oven door and element or burner cycling may give incorrect readings.

The oven provides accurate temperatures; however, it may cook faster or slower than your previous oven, so the temperature calibration can be adjusted. It can be changed in Fahrenheit or Celsius.

A minus sign means the oven will be cooler by the displayed amount. The absence of a minus sign means the oven will be warmer by the displayed amount. Use the following chart as a guide.

ADJUSTMENT °F (ADJUSTMENT °C)	COOKS FOOD
5° to 10°F (3° to 6°C)	...a little more
15° to 20°F (9° to 12°C)	...moderately more
25° to 35°F (15° to 21°C)	...much more
-5° to -10°F (-3° to -6°C)	...a little less
-15° to -20°F (-9° to -12°C)	...moderately less
-25°F (-15°C)	...much less

To Adjust Oven Temperature Calibration:

1. Press BAKE.
2. Enter 550° by pressing the “up” arrow pad.
3. Press and hold BAKE pad for several seconds or until “0°” appears in the display.

If the oven temperature was previously adjusted, the change will be displayed. For example, if the oven temperature was reduced by 15 degrees the display will show -15°.

4. Press the “up” or “down” arrow pads to adjust the temperature. Each time a pad is pressed, the temperature changes by 5 degrees.
5. The time of day will automatically reappear in the display.

You do not need to readjust the oven temperature if there is a power failure or interruption. Broiling, Keep Warm and Cleaning temperatures cannot be adjusted.

To Display Temperatures in °C instead of °F:

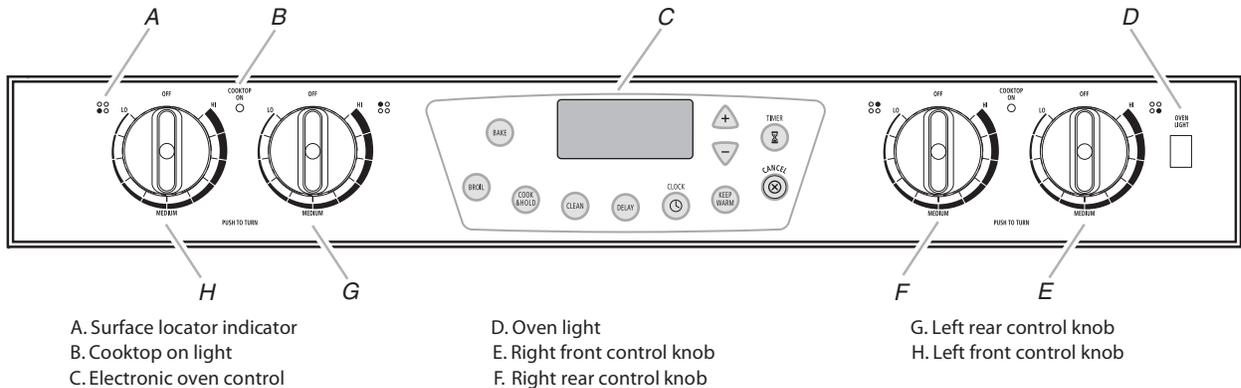
1. Press and hold the CANCEL and BAKE buttons for 3 seconds. A single beep will sound and the current setting will be displayed. If no change is made, the range will return to the existing setting after 30 seconds.
2. Press the “up” or “down” arrow pad to change the setting. Wait 5 seconds and the setting will be complete.

COMPONENT ACCESS

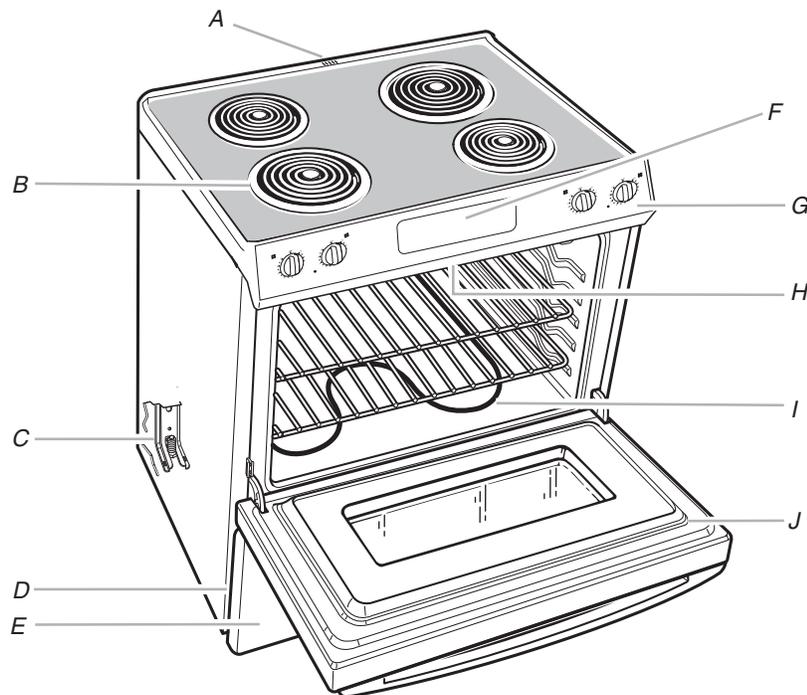
This section instructs you on how to service each component inside the Whirlpool Electric Slide-In Range. The components and their locations are shown below.

COMPONENT LOCATIONS

Control Panel Components



Range Components



- A. Oven vent
- B. Surface cooking area
- C. Anti-tip bracket
- D. Model and serial number plate
(behind right side of storage drawer)
- E. Removable storage drawer
- F. Electronic oven control
- G. Control panel
- H. Broil element (not visible)
- I. Bake element
- J. Gasket

REMOVING THE EOC ASSEMBLY

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

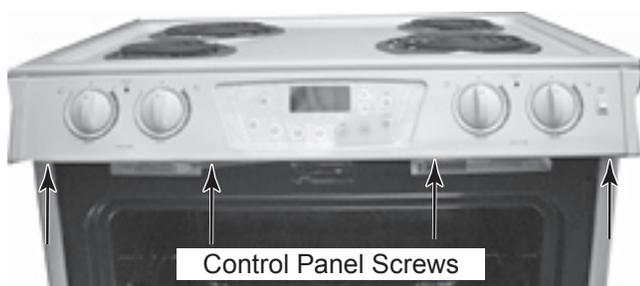
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Pull the range forward so you can access the two end cap screws.
3. To remove the electronic oven control (EOC) assembly on slide-in models:
 - a) Remove the two screws from the sides of the left and right end caps.



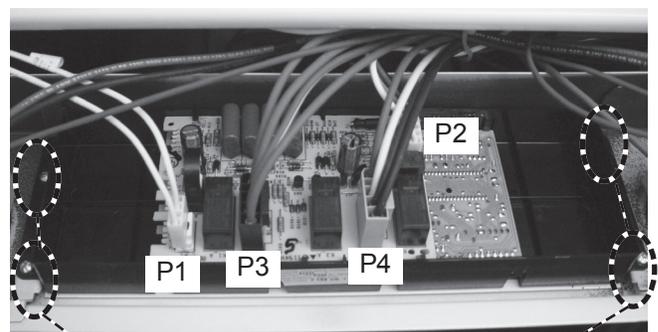
- b) Open the oven door and remove the indicated screws from the bottom of the control panel.



- c) Pull out on the bottom of the control panel, unclip the top edge from the bracket, and rotate the control panel forward and down so you can access the components.



- d) Disconnect the wire connectors from the electronic oven control board at P1, P2, P3 and P4.
- e) Remove the four screws from the electronic oven control housing, and remove the assembly from the control panel.
NOTE: The EOC boards and the housing are replaced as an assembly.



EOC Housing
Screws

REMOVING AN LED AND INFINITE SWITCH

⚠ WARNING



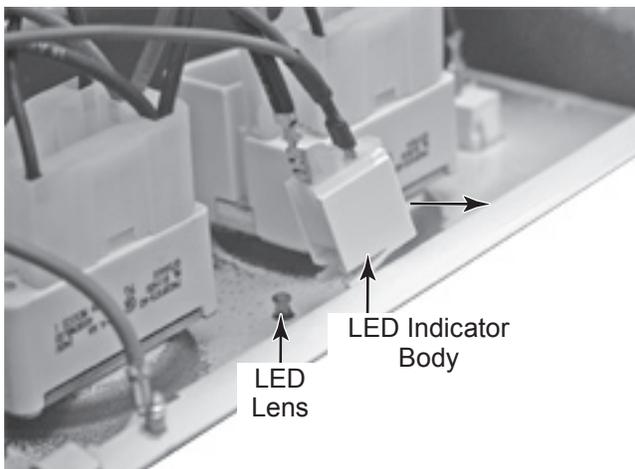
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

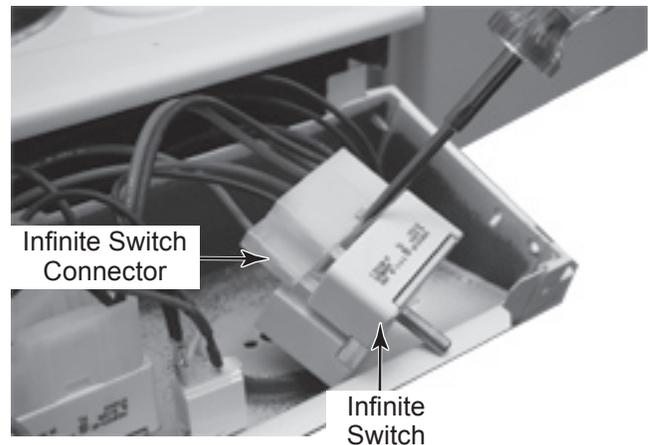
1. Unplug range or disconnect power.
2. Remove the control panel and rotate it forward (see page 4-2, steps 2a through 2c for the procedure).
3. To remove an LED indicator:
 - a) Slide LED indicator body out horizontally and release the indicator body from red LED lens.
 - b) Disconnect the two terminals from the LED indicator body.
 - c) Remove the LED indicator body.



4. To remove an infinite switch:
 - a) Remove control knob by pulling it straight off the control shaft.
 - b) Remove two screws holding infinite switch to control panel.



- c) Pry off infinite switch connector with flat blade screw driver.
- d) Remove infinite switch.



REMOVING COOKTOP AND COIL ELEMENT RECEPTACLES

⚠ WARNING



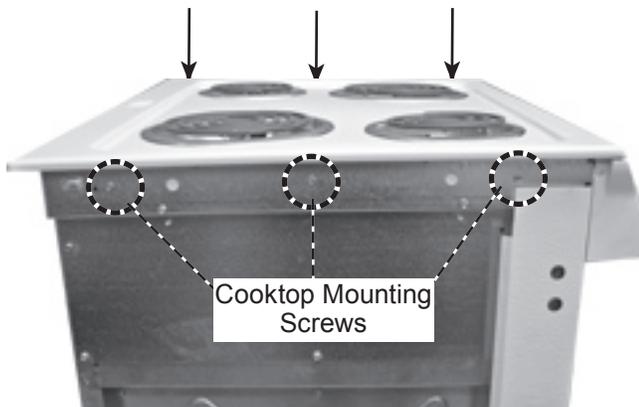
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

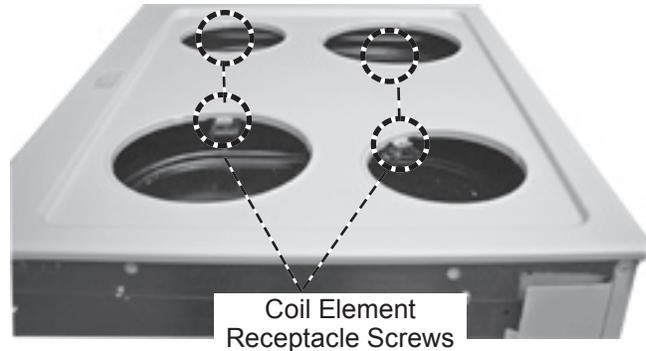
Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. To remove cooktop:
 - a) Pull the range out of its mounting location so that you can access the sides of the unit.



- b) Remove six screws from the left and right cooktop mounting plate.
- c) Remove four coil elements by unplugging coil elements and removing them from cooktop.

- d) Remove four drip bowls from cooktop.
- e) Remove four coil element receptacles by removing four receptacle mounting screws.

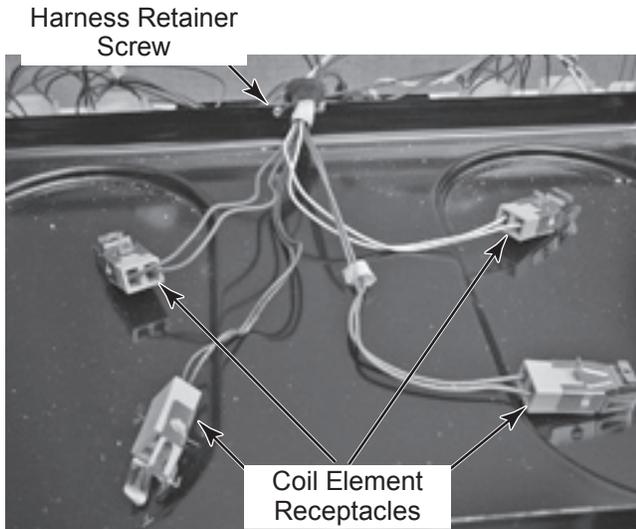


- f) Remove ground wire from back of unit attached to cooktop.

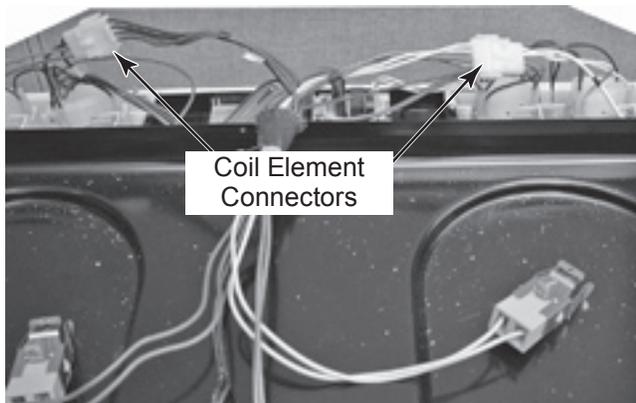


- g) Remove maintop from unit.

3. To remove coil element receptacles.
 - a) Remove the control panel and rotate it forward (see page 4-2, steps 2a through 2c for the procedure).
 - b) Remove harness retainer screw.



- c) Unplug two coil element connectors located in control panel.



- d) Remove coil element receptacles and harness.

REMOVING THE REAR PANEL

⚠ WARNING



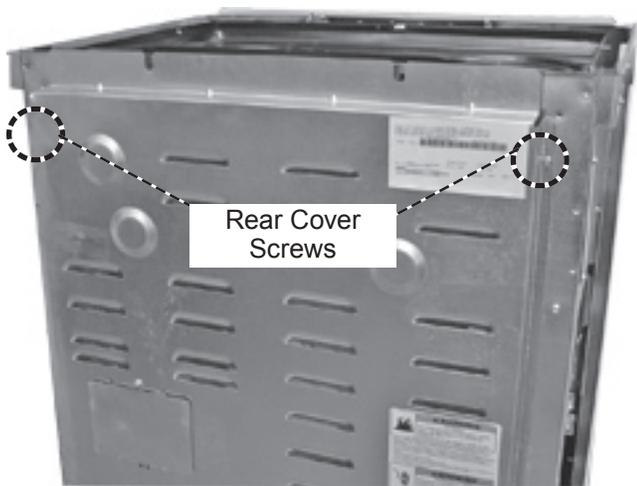
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Pull the range out of its mounting location so that you access the rear of the unit.
3. Remove two screws securing rear panel to unit.



4. Lift rear panel off of lower support tabs and remove rear panel from unit.

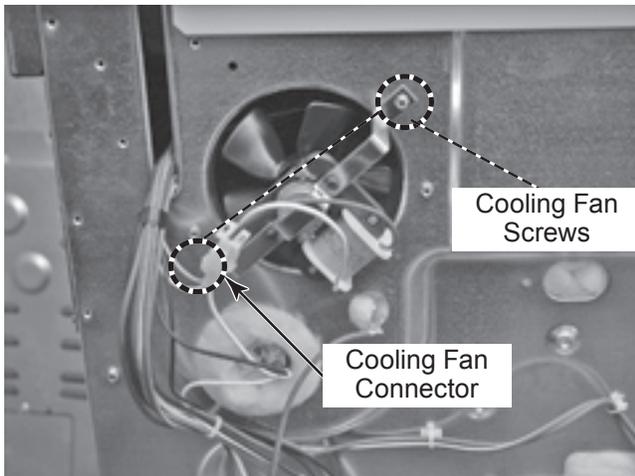
REMOVING A COOLING FAN AND OVEN LIGHT SOCKET

⚠ WARNING

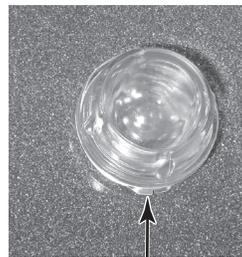


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

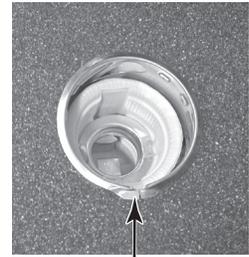
1. Unplug range or disconnect power.
2. Pull the range out of its mounting location so that you access the rear of the unit.
3. Remove rear panel. (see removing rear panel page 4-6 for procedure).
4. To remove cooling fan:
 - a) Unplug cooling fan connector.
 - b) Remove two screws holding cooling fan to rear of unit.
 - c) Remove cooling fan from unit.



5. To remove oven light socket:
 - a) Open the oven door and remove oven racks from the inside of oven.
 - b) Unscrew the lens and bulb from the oven light socket assembly and remove them.

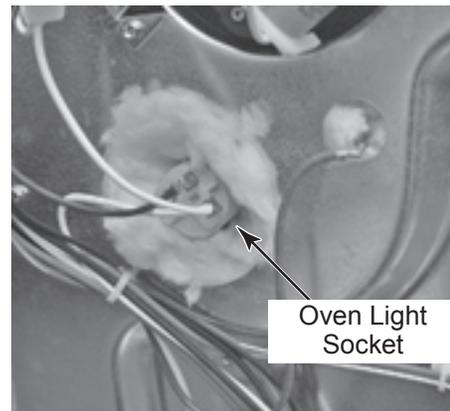


Lens & Bulb



Oven Light Socket

- c) Disconnect the two wire connectors from the oven light socket terminals.



- d) Move the insulation out of the way, and press in on the two locking tabs of the oven light socket, then push the socket out of the liner opening.

REMOVING BROIL ELEMENT

⚠ WARNING



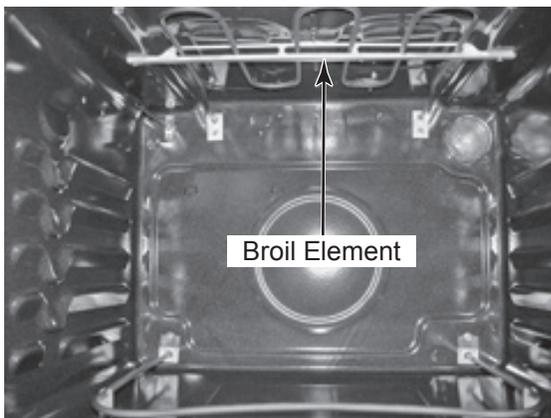
Electrical Shock Hazard

Disconnect power before servicing.

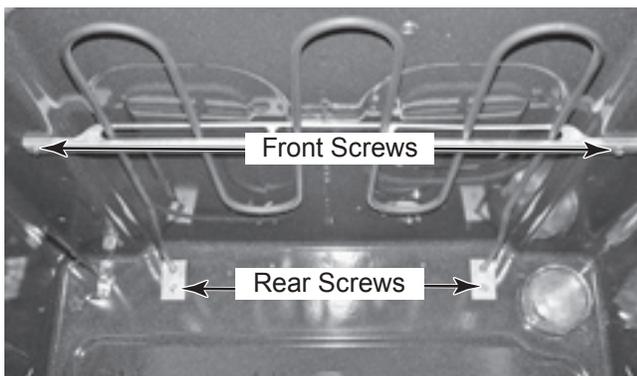
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Open the oven door and remove oven racks from the inside of oven.

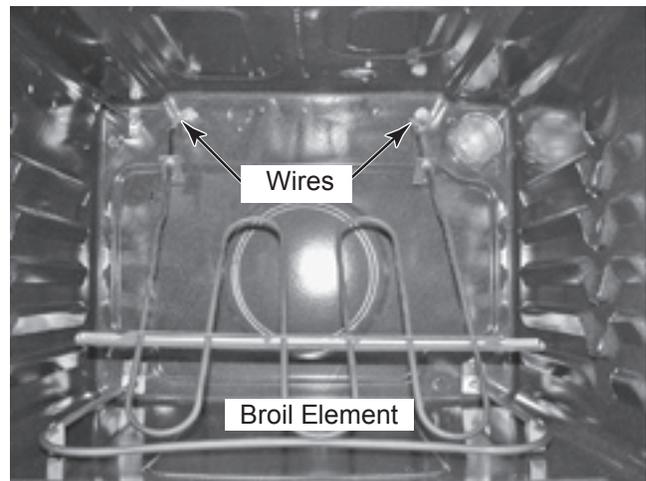


3. Remove the two front and the two rear broil element support screws.



4. Pull the broil element forward so that the wire connectors are inside the oven cavity.
5. Disconnect the two wires from the element terminals of the broil element.

NOTE: When you disconnect the wires, be careful not to allow them to pull back behind the access holes where you will not be able to retrieve them without removing the unit from its mounting location.



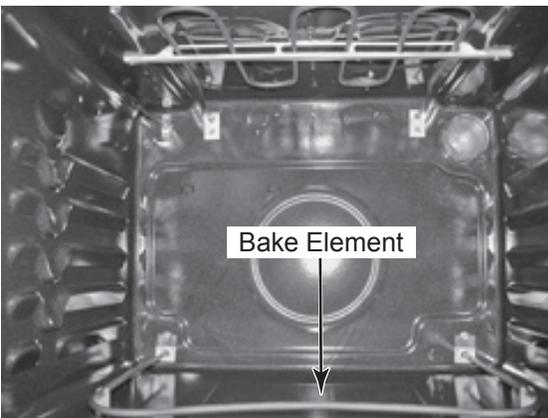
REMOVING BAKE ELEMENT

⚠ WARNING

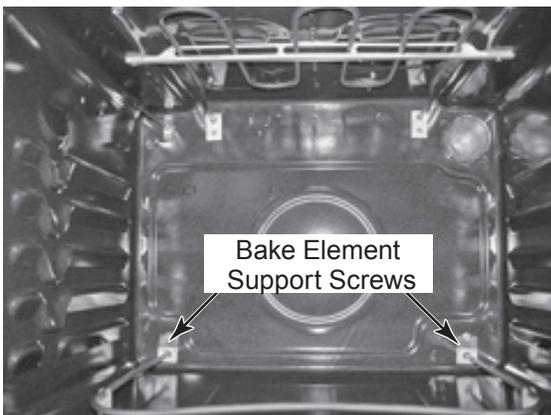


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Open the oven door and remove oven racks from the inside of oven.

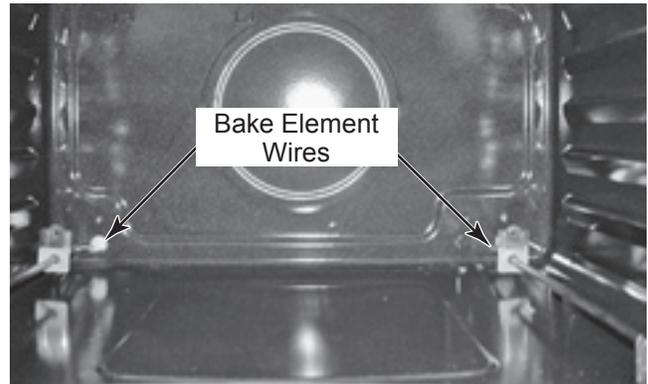


3. Remove two bake element support screws.



4. Pull the bake element forward so that the wire connectors are inside the oven cavity.
5. Disconnect the two wires from the element terminals of the bake element.

NOTE: When you disconnect the wires, be careful not to allow them to pull back behind the access holes where you will not be able to retrieve them without removing the unit from its mounting location.



REMOVING THE OVEN TEMPERATURE SENSOR

⚠ WARNING



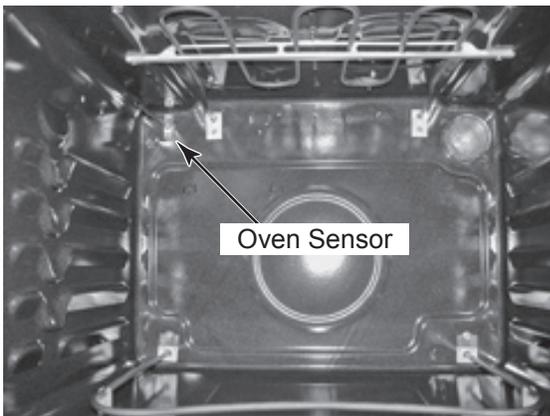
Electrical Shock Hazard

Disconnect power before servicing.

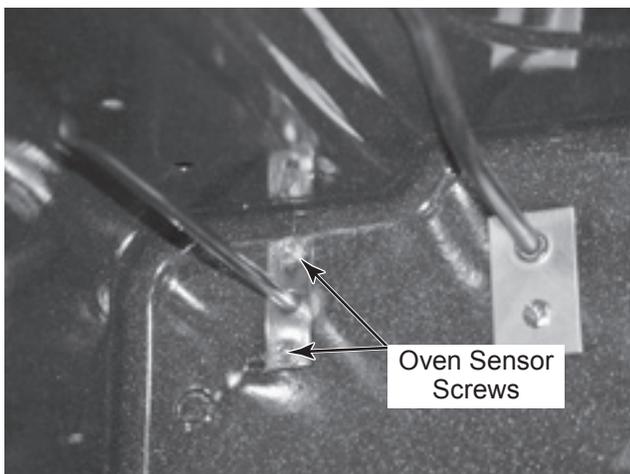
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Open the oven door and remove oven racks from the inside of oven.

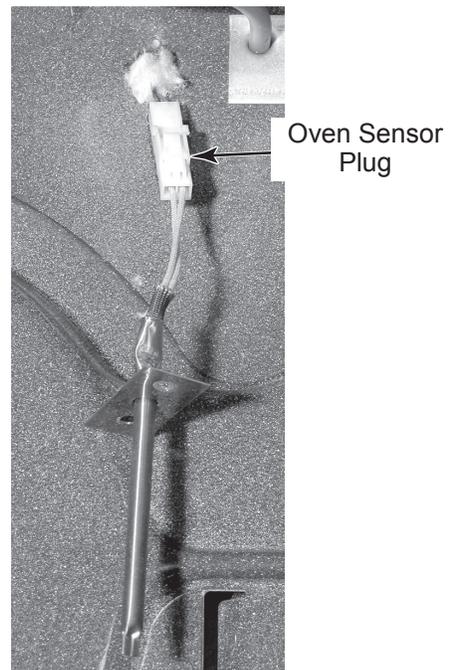


3. Remove two oven sensor screws.



4. Pull the oven sensor forward so that the wire connectors are inside the oven cavity.
5. Disconnect the plug from the oven sensor harness.

NOTE: When you disconnect the plug, be careful not to allow them to pull back behind the access holes where you will not be able to retrieve them without removing the unit from its installation.



REMOVING THE OVEN TOC

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

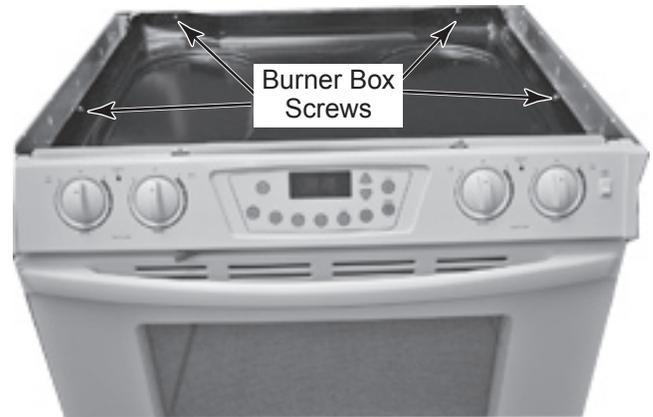
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Pull the range out of its mounting location so that you access the rear of the unit.
3. Remove rear panel. (see removing rear panel page 4-6 for procedure).
4. Remove cooktop. (see removing cooktop and coil element receptacles page 4-4 for procedure).



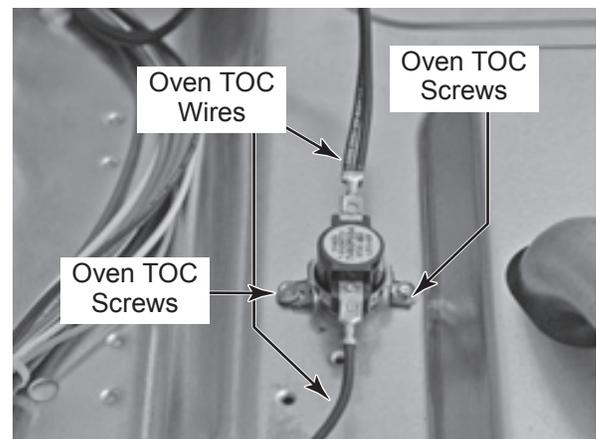
5. Remove four screws from burner box attaching it to unit.



6. Remove burner box bottom from unit.



7. Disconnect two wires from oven TOC terminals.
8. Remove two screws from oven TOC.



9. Remove oven TOC from unit.

REMOVING DOOR LATCH ASSEMBLY

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

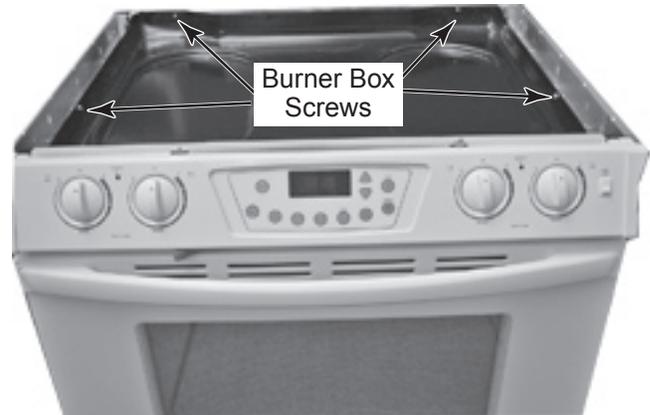
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug range or disconnect power.
2. Pull the range out of its mounting location so that you access the rear of the unit.
3. Remove rear panel. (see removing rear panel page 4-6 for procedure).
4. Remove cooktop. (see removing cooktop and coil element receptacles page 4-4 for procedure).



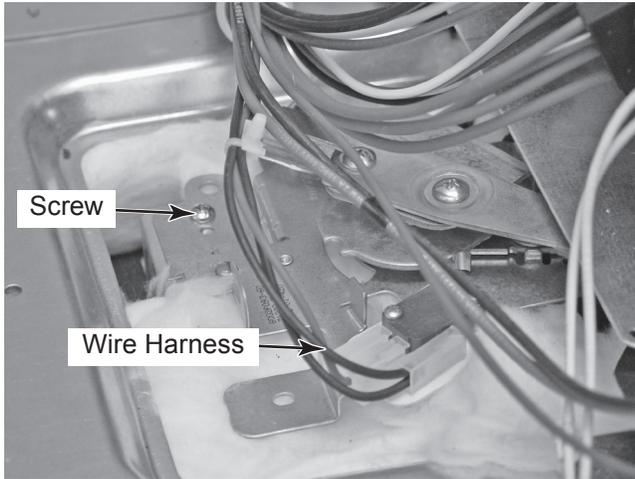
5. Remove four screws from burner box attaching it to unit.



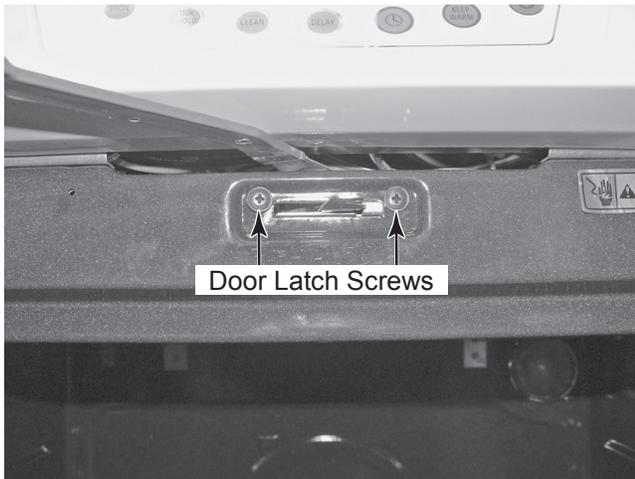
6. Remove burner box bottom from unit.



7. Unplug wire harness from door latch assembly.
8. Remove screw retaining rear of door latch assembly to unit.



9. Open the oven door and remove two screws retaining oven door latch assembly to oven liner.

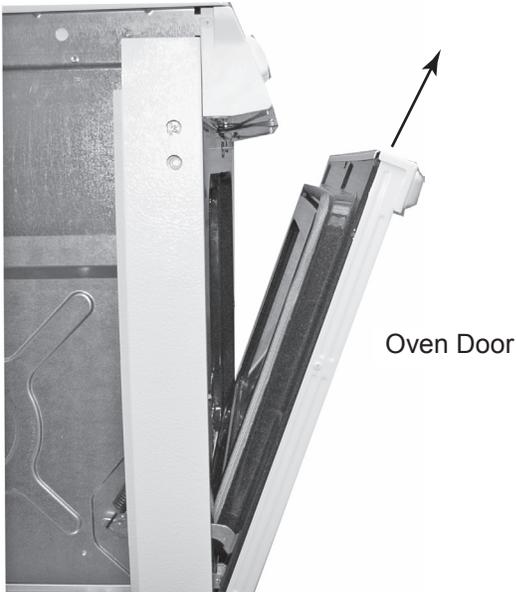


10. Slide oven door latch handle and latch assembly back thru opening and remove.

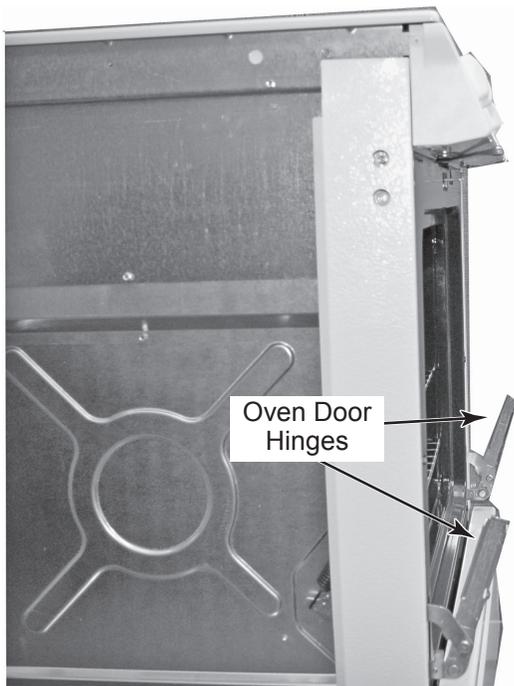
REMOVING AND REINSTALLING THE OVEN DOOR

To remove the oven door:

1. Open oven door to the 1/4 open position.

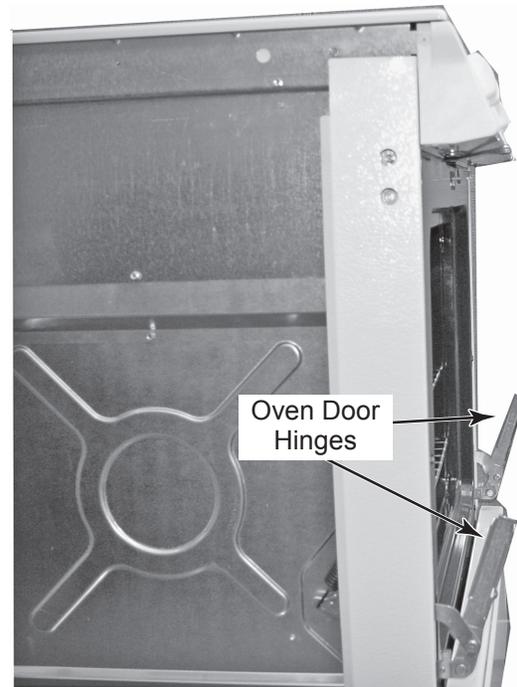


2. Lift oven door off of hinges by grasping door at sides of oven door and sliding it off the hinges.

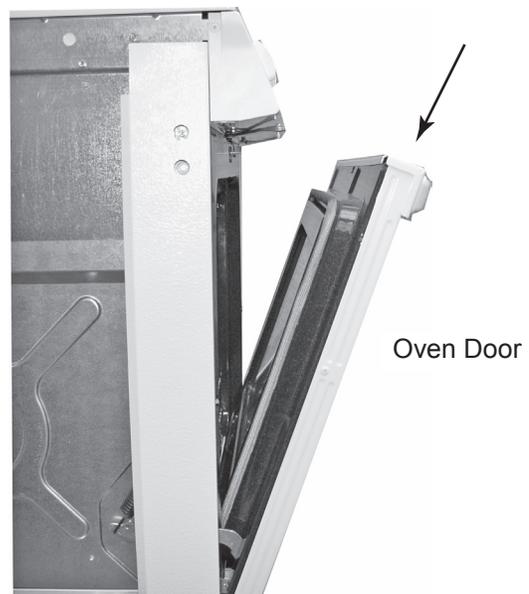


To reinstall the oven door:

1. Rotate hinges to the 1/4 open position.



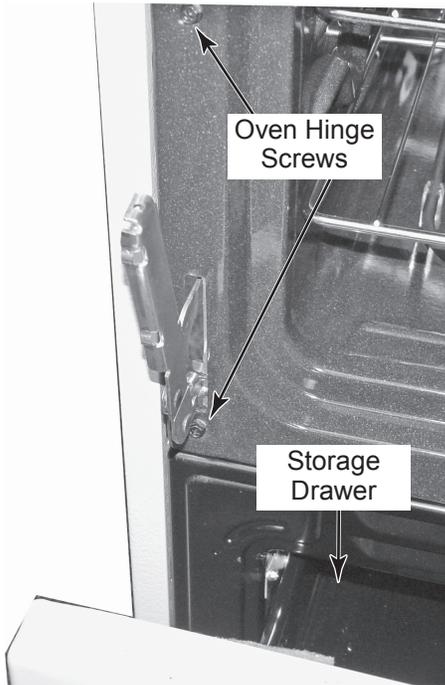
2. Slide oven door on to hinges by grasping door at sides of oven door and sliding it down on to the hinges.



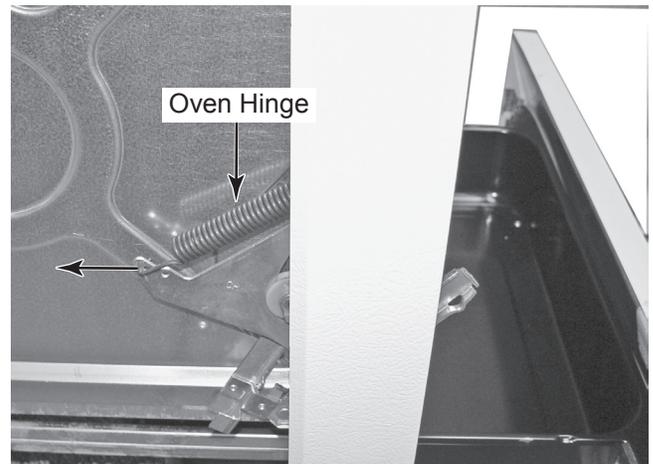
3. Open and close door to make sure that it operates and seals properly.

REMOVING AN OVEN HINGE

1. Pull the range out of its mounting location so that you access the side of the unit.
2. Remove oven door (see removing and reinstalling the oven door page 4-14 for procedure).
2. Open storage drawer to expose lower hinge screw.
3. Remove two screws securing oven hinge to oven cavity.



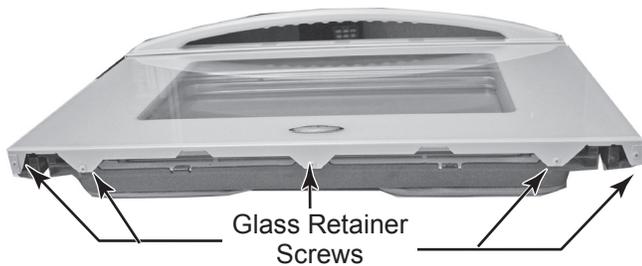
4. Slide and rotate oven hinge back thru hinge opening to remove from unit.



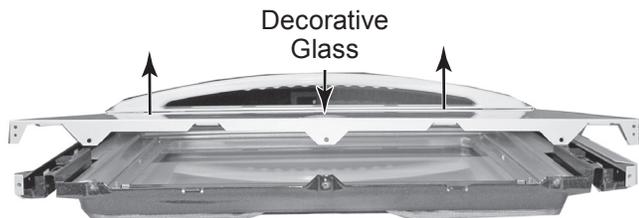
5. Remove oven hinge from unit.

REMOVING THE DECORATIVE GLASS, OVEN DOOR HANDLE AND THE OVEN DOOR GLASS

1. Remove oven door (see removing and reinstalling the oven door page 4-14 for procedure).
2. Place the oven door on a padded work surface with decorative glass and handle facing up and the bottom edge facing the front.
3. **To remove the decorative glass:**
 - a) Remove five screws from bottom glass retainer on bottom edge of door.



- b) Lift the decorative glass up with glass retainer and slide back from under handle to remove.

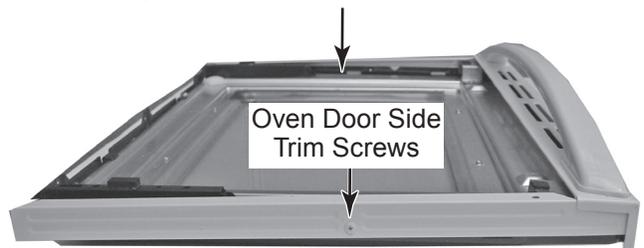


- c) Remove glass retainer from glass by sliding it off bottom of glass.

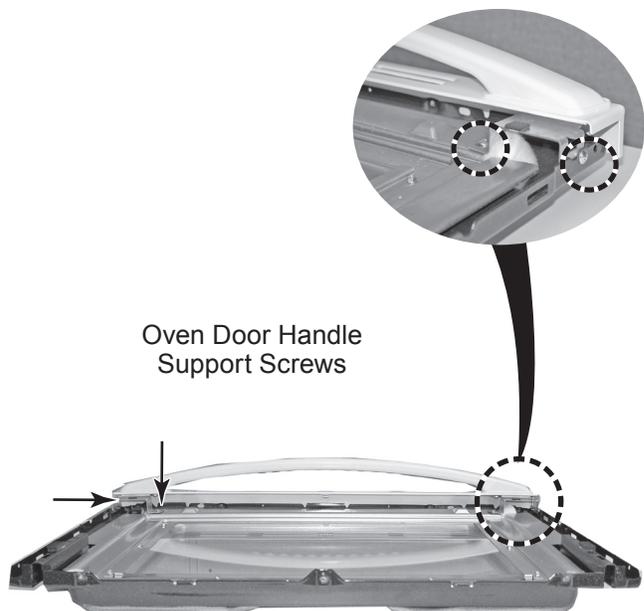
4. **To remove oven door handle:**
 - a) Remove the decorative glass (see step 3).
 - b) Remove four screws from top of oven door trim.



- c) Remove two side oven trim screws from right and left trim pieces.



- d) Remove four screws holding oven door handle support to oven door liner.



e) Lift handle off of oven door liner.

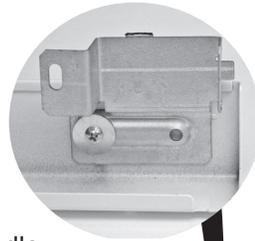


d) Remove four screws from baffle retainer.



Oven Door
Baffle Retainer

f) Remove two screws attaching oven door handle to handle mounting brackets.

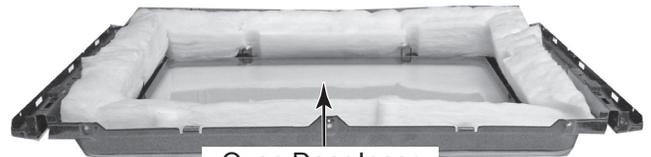


Oven Door Handle
Mounting Screws



Oven Door Baffle
Retainer Screws

e) Lift baffle retainer off of oven door liner.



Oven Door Inner
Glass

e) Remove handle from mounting brackets.
5. **To remove outer and inner oven door glass:**

- a) Remove the decorative glass (see step 3).
- b) Remove six screws from right and left glass bracket holding outer glass to frame.

f) Lift oven door inner glass off of oven door liner.

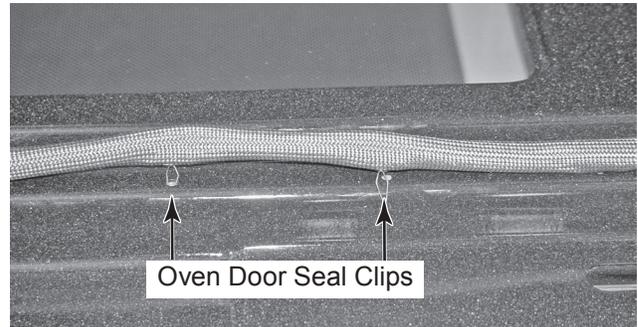
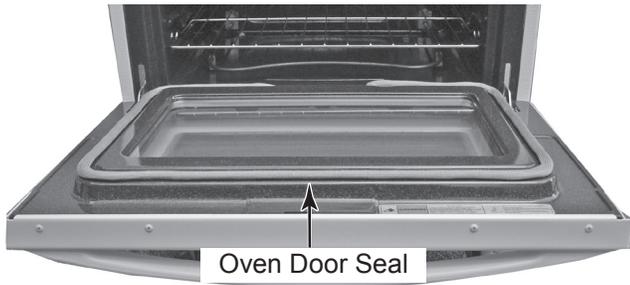


Outer Oven Glass
Bracket Screws

c) Lift outer glass and glass brackets off of oven door liner.

REMOVING OVEN DOOR SEAL

1. Open oven door to the fully open position.
2. Starting at one end of the door seal where it is tucked into inner oven liner, pull the oven door seal out of the liner.
3. Pull the oven door seal clips out of oven door liner.



REASSEMBLY NOTE: After the door seal is installed, make sure that it is even along the surface of the door when the door is closed.

COMPONENT TESTING

Before testing any of the components, perform the following checks:

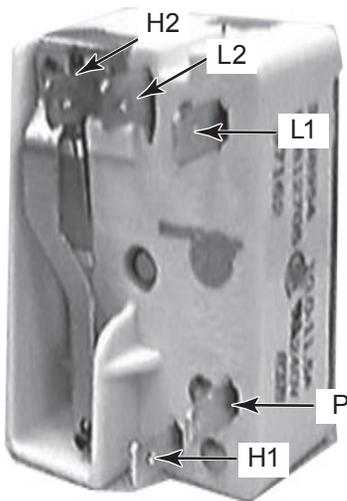
- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.

All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms-per-volt DC, or greater.

- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

	! WARNING
	Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

INFINITE SWITCH



Refer to page 4-3 for the procedure for servicing a single element infinite switch.

1. Disconnect the electrical power to the range.
2. Set the ohmmeter to the R x 1 scale.
3. Turn the appropriate infinite switch to the on position.
4. Touch the ohmmeter test leads to terminals L1 and P. The meter should indicate continuity (0 ohms).

5. Touch the ohmmeter test leads to terminals L1 and H1. The meter should indicate continuity (0 ohms).
6. Touch the ohmmeter test leads to terminals L1 and H2. The meter should indicate continuity (0 ohms).

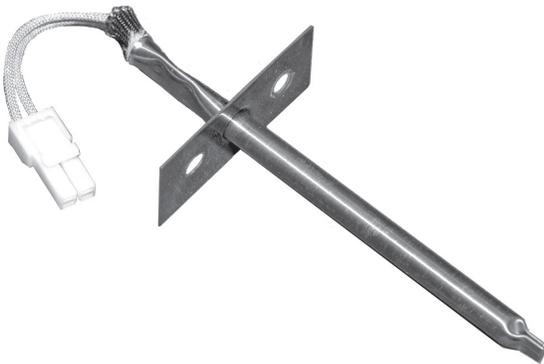


! WARNING

Electrical Shock Hazard

Disconnect power before servicing.
 Replace all parts and panels before operating.
 Failure to do so can result in death or electrical shock.

OVEN TEMPERATURE SENSOR



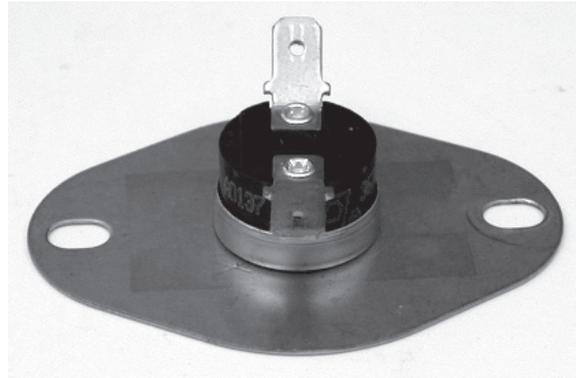
Refer to page 4-10 for the procedure for servicing the oven temperature sensor.

1. Unplug range or disconnect power.
2. Disconnect the temperature sensor connector.
3. Set the ohmmeter to the R x 1K scale.
4. To test the oven temperature sensor, touch the ohmmeter test leads to the temperature sensor connector pins. The meter should indicate as shown in the chart below.

Temperatures (°F)	Temperatures (°C)	Resistance (Ω)
32	0	1000
75	25	1100
200	95	1350
250	120	1450
350	175	1650
450	230	1850
550	290	2050
650	350	2240
865	465	2630
900	480	2700

OVEN TOD

Opens	215°F
Closes	165°F



Refer to page 4-11 for the procedure for servicing the oven TOD.

1. Unplug range or disconnect power.
2. Disconnect one of the wires from the oven TOD terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the oven TOD terminals. The meter should indicate a closed circuit (0 Ω).



! WARNING

Electrical Shock Hazard

**Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.**

BAKE ELEMENT



Refer to page 4-9 for the procedure for servicing the bake element.

1. Unplug range or disconnect power.
2. Disconnect one of the wires from the bake element terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the bake element terminals. The meter should indicate between 21 and 33 Ω .

6 INCH & 8 INCH COIL ELEMENTS



Refer to page 4-4 for the procedure for servicing the coil element.

1. Unplug range or disconnect power.
2. Push and lift the element from the terminal block.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the coil element terminals. The meter should indicate between 42 and 50 Ω on 6 inch coil element, and 22 and 26 Ω on 8 inch coil element.

! WARNING



Electrical Shock Hazard

**Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.**

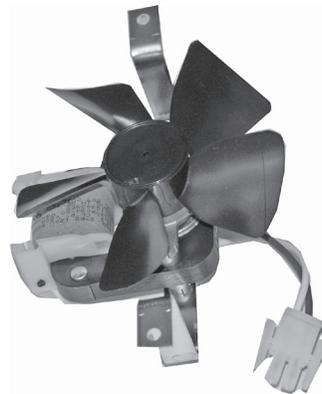
BROIL ELEMENT



Refer to page 4-8 for the procedure for servicing the broil element.

1. Unplug range or disconnect power.
2. Disconnect one of the wires from the broil element terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the broil element terminals. The meter should indicate between 14 and 16 Ω .

COOLING FAN MOTOR



Refer to page 4-7 for the procedure for servicing the broil element.

1. Unplug range or disconnect power.
2. Disconnect one of the wires from the cooling fan motor terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the cooling fan motor terminals. The meter should indicate between 14 and 16 Ω .

! WARNING



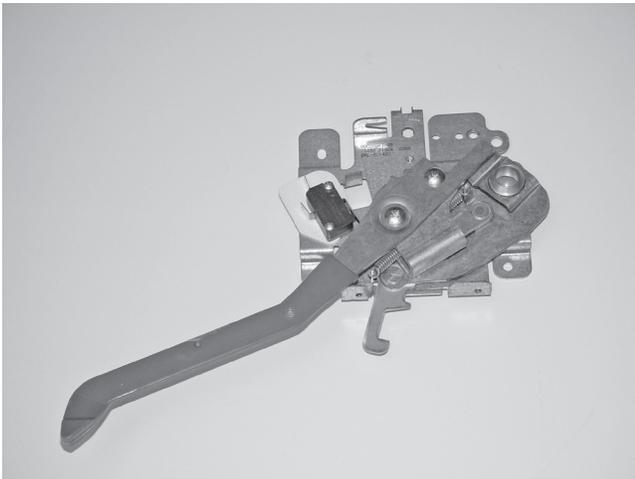
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

DOOR LATCH ASSEMBLY SWITCH



Refer to page 4-12 for the procedure for servicing the door latch assembly switch.

1. Unplug range or disconnect power.
2. Disconnect the wires from the door latch assembly switch terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the door latch assembly switch terminals. The meter should indicate a open circuit (∞).

— NOTES —

DIAGNOSTICS & TROUBLESHOOTING



⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

ERROR CODES

Description of Error Codes

Error diagnostic codes can only be viewed by entering the Diagnostic Code Display Mode. Each error code is four digits long and is created based on the following table.

Digit	Description
1 st	Primary System: 1 – Local to the control circuit board 3 – Sensor or meat probe 4 – Control input 9 – Door lock
2 nd	Measurable: d – Diagnostic failure: measurable parameter c – Control related error, replace control
3 rd	Primary failure mechanism
4 th	Oven Cavity: 1 – Upper oven (or single cavity oven) 2 – Lower oven c – Control specific

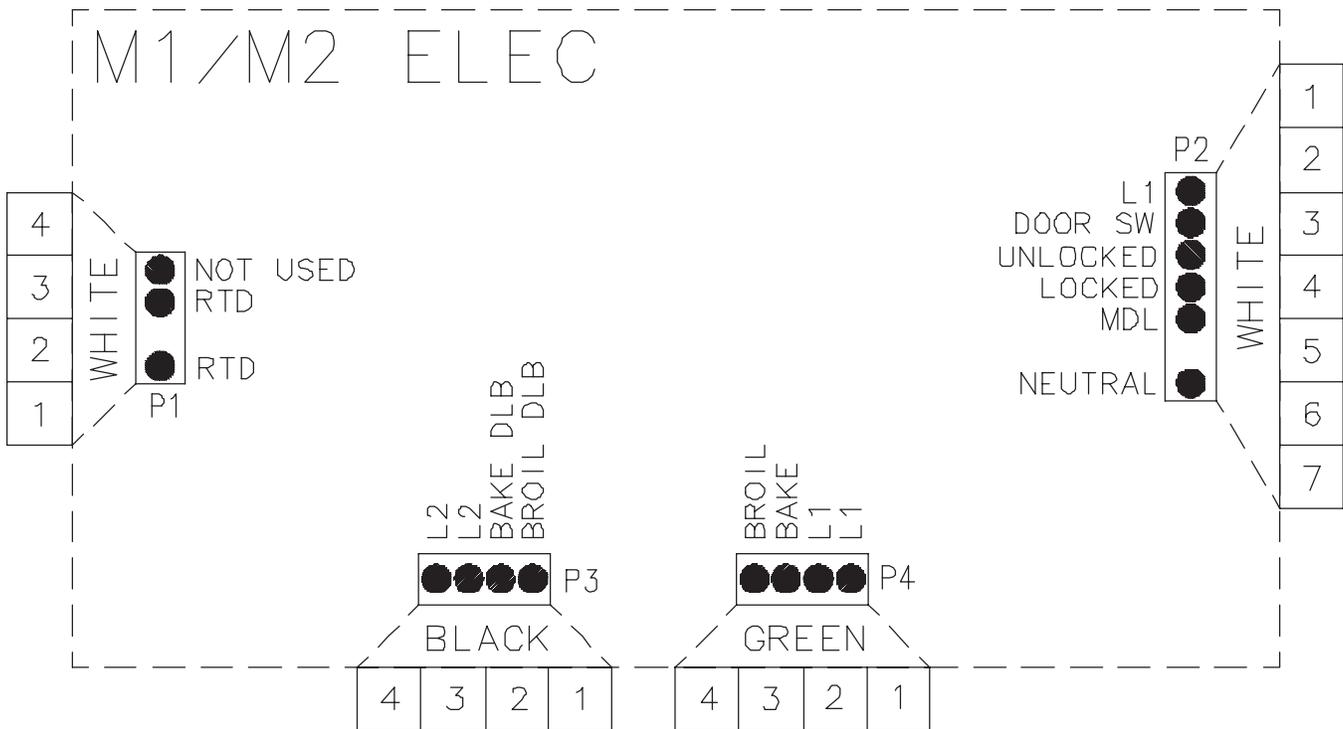
Diagnostic Code Checking

Code	Description	When Checked	Detection
1c1c	Shorted key	Always	1 minute
1c2c	Keyboard tail disconnected	Always	1 minute
1c31	Cancel key circuit problem	Always	20 sec
1c32	Cancel key circuit problem	Always	20 sec
1c4c	Power micro communication failure	Always	20 sec
1c6c	EEPROM error	When accessing EEPROM	3 tries
1c7c	Control not calibrated	Always	3 tries
1c81	Cook profile corrupted in EEPROM	Cook or clean programmed	3 tries
1c82	Cook profile corrupted in EEPROM	Cook or clean programmed	3 tries
1d11	Runaway temperature (650°F), door unlocked	Latch unlocked	1 minute
1d12	Runaway temperature (650°F), door unlocked	Latch unlocked	1 minute
1d21	Runaway temperature (950°F), door locked	Latch locked	1 minute
1d22	Runaway temperature (950°F), door locked	Latch locked	1 minute
3d11	Temperature sensor failure (open)	Cook or Clean active	20 sec
3d12	Temperature sensor failure (open)	Cook or Clean active	20 sec
3d21	Temperature sensor failure (short)	Cook or Clean active	20 sec
3d22	Temperature sensor failure (short)	Cook or Clean active	20 sec
3d41	Meat probe shorted	Probe cook programmed	20 sec
3d51	Meat probe not calibrated	Always	3 sec
4d11	Door switch position failure	Clean or Keyboard Lockout active	1 minute
4d12	Door switch position failure	Clean or Keyboard Lockout active	1 minute
4d21	No Reverse Airflow Fan rotation (no/low RPM)	Cook or Clean programmed	1 minute
4d22	No Reverse Airflow Fan rotation (no/low RPM)	Cook or Clean programmed	1 minute
4d31	Reverse Airflow Fan state error (on when supposed to be off)	When supposed to be off	1 minute
4d32	Reverse Airflow Fan state error (on when supposed to be off)	When supposed to be off	1 minute
4d41	High Reverse Airflow Fan rotation, high RPM	Cook or Clean programmed	1 minute
4d42	High Reverse Airflow Fan rotation, high RPM	Cook or Clean programmed	1 minute
4d51	Door switch circuit failure	Convect, Clean, or Keyboard Lockout programmed	1 minute
4d52	Door switch circuit failure	Convect, Clean, or Keyboard Lockout programmed	1 minute
9d11	Latch will not lock ^b	Latch should be locked	See note 6
9d12	Latch will not lock ^b	Latch should be locked	See note 6
9d21	Latch will not unlock ^b	Latch should be unlocked	See note 6
9d22	Latch will not unlock ^b	Latch should be unlocked	See note 6
9d31	Latch both locked and unlocked ^b	Latch should be locked or when lock attempted	See note 6
9d32	Latch both locked and unlocked ^b	Latch should be locked or when lock attempted	See note 6

Code	Measured	Display	Action Taken
1c1c	Keypress		Disable audible for affected key depression, Disable all outputs ^{1,2} Disable lights and timers
1c2c	Keyboard loop improper value		Disable audible for key depression, Disable all outputs ¹ Disable lights and timers
1c31	Cancel key improper value	mssg 1 (active) / mssg 2 (data)	Disable all outputs for cavity ¹
1c32	Cancel key improper value	mssg 1 (active) / mssg 2 (data)	Disable all outputs for cavity ¹
1c4c	CRC invalid	mssg 1 (active) / mssg 2 (data)	Disable all outputs ¹
1c6c	No response from EEPROM	mssg 1 (active) / mssg 2 (data)	Disable all outputs ¹
1c7c	Calibration value out of range	mssg 1 (active) / mssg 2 (data)	Completely disable oven ⁴
1c81	CRC invalid	mssg 1 (active) / mssg 2 (data)	Disable affected oven function ¹
1c82	CRC invalid	mssg 1 (active) / mssg 2 (data)	Disable affected oven function ¹
1d11	Sensor resistance >2237 Ω	mssg 1 (active) / mssg 3 (data)	Disable all cooking functions for cavity
1d12	Sensor resistance >2237 Ω	mssg 1 (active) / mssg 3 (data)	Disable all cooking functions for cavity
1d21	Sensor resistance >2787 Ω	mssg 1 (active) / mssg 3 (data)	Disable all cooking functions for cavity
1d22	Sensor resistance >2787 Ω	mssg 1 (active) / mssg 3 (data)	Disable all cooking functions for cavity
3d11	Sensor resistance > Infinite Ω	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
3d12	Sensor resistance > Infinite Ω	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
3d21	Sensor resistance < 0 Ω	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
3d22	Sensor resistance < 0 Ω	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
3d41	Probe resistance < 0 Ω	mssg 1 (active) / mssg 2 (data)	Disable all probe functions
3d51	Calibration value out of range	mssg 2	Disable all probe functions
4d11	Door switch not closed when door is locked	mssg 1	Disable Clean and lockout functions ⁵
4d12	Door switch not closed when door is locked	mssg 1	Disable Clean and lockout functions ⁵
4d21	Reverse Airflow Fan rotation (no/low RPM)	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
4d22	Reverse Airflow Fan rotation (no/low RPM)	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
4d31	Reverse Airflow Fan rotation (on when should be off)	No change	No action
4d32	Reverse Airflow Fan rotation (on when should be off)	No change	No action
4d41	Reverse Airflow Fan rotation (high RPM)	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
4d42	Reverse Airflow Fan rotation (high RPM)	mssg 1 (active) / mssg 2 (data)	Disable all cooking functions for cavity
4d51	Door switch not open or closed	mssg 1 (active) / mssg 2 (data)	Disable Convect, Clean, and lockout functions ^{4,5} Turn off light and disable light from door switch
4d52	Door switch not open or closed	mssg 1 (active) / mssg 2 (data)	Disable Convect, Clean, and lockout functions ^{4,5} Turn off light and disable light from door switch
9d11	Lock switch not closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴
9d12	Lock switch not closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴
9d21	Unlock switch not closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴
9d22	Unlock switch not closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴
9d31	Lock and unlock switches both closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴
9d32	Lock and unlock switches both closed	mssg 1 (active) / mssg 2 (data)	Disable Clean and lockout functions ⁴

NOTES:

- 1 "Action Taken" applies as long as the condition exists. If the condition goes away, the control recovers.
- 2 If there is a cook function or timer active, the function continues. The user cannot edit the function, and [Cancel] will cancel the cook mode.
- 3 Flash rate: 0.2 seconds on, 0.1 second off. Pressing any key will clear the display until the fault clears and is re-triggered.
- 4 "Action Taken" applies until there is a POR (Power On Reset ["hard reset"]).
- 5 If the control believes the door is locked, it will attempt to unlock it when the function cancels and the cavity temperature cools.
- 6 Special conditions for latch faults (9dxx):
 - A known good **unlock** position is defined as when the unlock switch reads closed and lock switch reads open.
 - A known good **lock** position is defined as when the unlock switch reads open and lock switch reads closed.
 - A **faulted switch** means the switch input is reading an invalid state, neither open nor closed.
 - Once a latch fault occurs, latch movement is disabled until there is a POR. An error tone will sound if a function requiring a faulted latch is attempted.
 - If at POR, the latch is not at a known good unlock position:
 - If the latch is at a good lock position, it will attempt to unlock when the RTD (Resistance Temperature Device) temperature is below 400°F.
 - If the latch is not at a good lock position, the control will fault.
 - If a latch fault occurs while the RTD is above the lock temperature, the latch will not try to move, but the fault is still logged to EEPROM after the first stage of detection.
 - The Display column for latch faults applies 1) If the latch was moving when the fault occurred; 2) If the latch is already in a known locked state when the fault occurs.
 - LOCK flashes after a fault is detected and until the unlocked position is achieved. The unlock position may be identified by a successful unlock switch closure, or as the result of timing when the unlock switch is not functioning properly.
 - If the last known good position was unlock (e.g. baking, or idle) and a latch fault occurs, the motor is never moved. The fault is logged to EEPROM and is not seen by the user.
 - The detection for latch faults is in two stages. The first stage is to let the control recover without moving the latch. After this:
 - If the latch was previously at a known good unlock position, the latch will not move and the control will fault.
 - If the control was previously in a known good lock position:
 - If the RTD is below 400°F, the latch will attempt to recover to its proper position (up to three revolutions). If it cannot, the control will fault and the latch will move to a calculated unlock position.
 - If the RTD is at or above 400°F, the control will fault. When the RTD cools to below 400°F, the control will attempt to recover to a good unlock position (up to three revolution). If it cannot, the control will fault and the latch will move to a calculated unlock position.
 - **Note:** If the unlock position cannot be found, this may result in a second fault, the first fault occurring when the latch request was locked, and the second when the latch request is unlocked.
 - If the latch is moving when the fault occurs, the control will bypass the first stage of detection and immediately try to find its proper position. If it cannot, the control will fault and the latch will move to a calculated unlock position.
 - Affected DLBs (Double Line Breaks) and loads are disabled during detection.
 - If the control is in a known good unlock position and the lock switch becomes faulted:
 - The control will not fault.
 - If a function requiring latch movement is attempted while the lock switch is faulted, the control will sound an error tone and the function will be disabled.
 - If the control is in a known good lock position and the unlock switch becomes faulted:
 - The control will not fault.
 - After the function is canceled and unlock is attempted, the control will attempt to unlock the latch according to the procedures in these notes.



"Quick Test" Mode for Electronic Range Control

Follow procedure below to use the quick test mode. Entries must be made within 32 seconds of each other or the control will exit the quick test mode.

1. Press and hold **CANCEL** and **BROIL** pads for 3 seconds.
2. Once the control has entered the "Quick Test" mode, release both pads.
3. Press each of the following pads indicated in the table below.

NOTE: First time one of following pads are pressed it will activate the response. The second time the pad is pressed it will deactivate the response.

NOTE: This mode can only be entered within the first 5 minutes after power up.

NOTE: If the temperature sensor is greater than 400° F and the Quick Test mode will be disabled if the temperature sensor reaches 400° F while under test.

Display will indicate the following:

Key	Operation
[Bake]	Bake relay activated
[Broil]	Broil relay activated
[Keep Warm]	DLB relay activated
[Cook&Hold]	Last Diagnostic Code displayed
[Clean]	Beep sounds
[Delay] (M1)	EEPROM Version Number displayed
[Timer]	Main Code Version Number displayed
[Clock]	All Segments On
[More +]	Even Segments On
[Less -]	Odd Segments On
[Cancel]	End Factory Test Mode

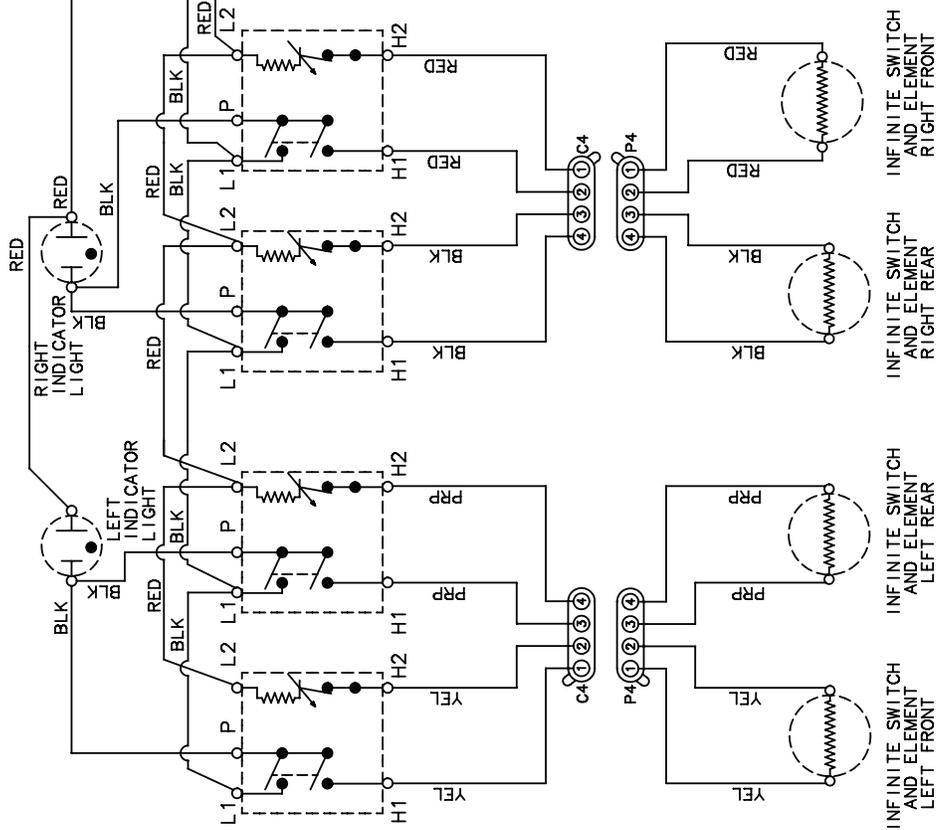
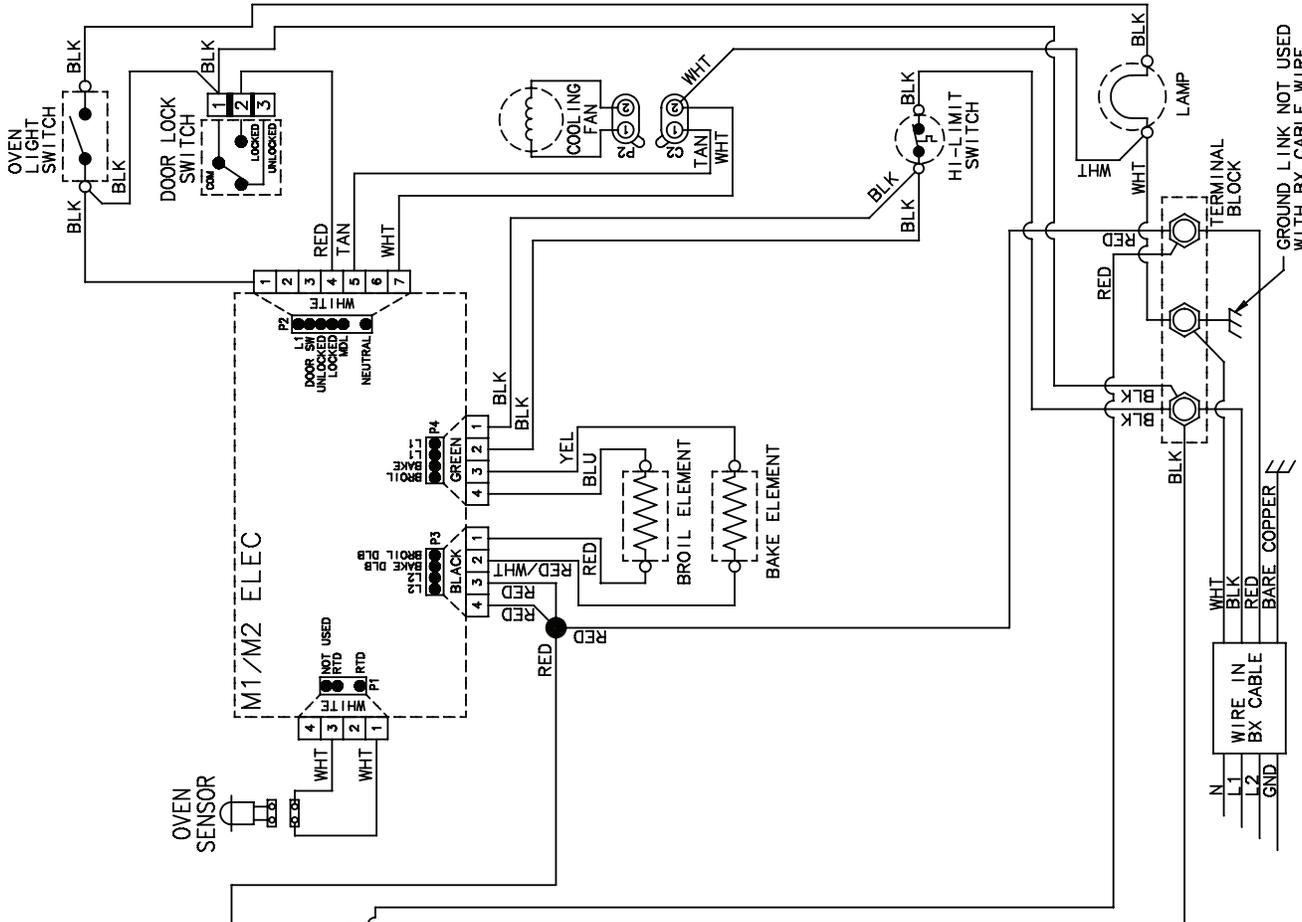
Diagnostic Code Display Mode can only be started within 30 seconds when powering up the control.

Hidden Functions

Control	Feature	Test Procedure	Results
M1	Oven temperature adjustment	Press BAKE pad. Enter 550 on the digit pad. Immediately press and hold BAKE pad for 3 to 5 seconds. Oven can be adjusted from -35 to +35 degrees in 5-degree increments by pressing MORE+ or LESS- pads. To avoid over adjusting the oven, move temperature 5 degrees and wait 4 seconds for the data entry timer to expire to accept the change. Temperature adjustment will be retained even through a power failure.	Increasing or decreasing oven temperature does not affect self-cleaning temperature.
M1	Temperature display	Press and hold CANCEL and BAKE pads for 3 to 5 seconds. Press MORE+ or LESS- pads to change.	Toggles temperature reading (°F or °C) on the display.
M1	Clock display	Press and hold CANCEL and CLOCK pads for 3 to 5 seconds.	Toggles clock on or off.
M1	24-hour clock	Press and hold CANCEL and DELAY pads for 3 to 5 seconds. Press MORE+ or LESS- pads to change.	Toggles time setting to 12-hour or 24-hour display.
M1	Factory default	Press and hold CANCEL and KEEP WARM pads for 3 to 5 seconds.	Resets clock to factory settings.
M1	12-hour shutoff	Control automatically cancels cooking operation and removes all relay drives 12 hours after the last pad touch.	See, "Sabbath Mode" to disable.
M1	Sabbath mode	Hold CLOCK pad for 3 to 5 seconds to activate Sabbath mode. Hold CLOCK pad for 3 to 5 seconds to disable Sabbath mode. Desired bake function must be initiated before entering Sabbath mode.	"SAB" flashes for 5 seconds, then remains on until timed-out or cancelled. Status SAB is not fault code 5Ab. All pad inputs are disabled except CANCEL and CLOCK pads. This mode disables the 12-hour shutoff and allows bake mode operation for 72 hours. The oven light is not disabled.
M1	Child lockout	Press and hold CANCEL and COOK & HOLD pads for 3 to 5 seconds until beep sounds. To reactivate the control, press and hold CANCEL and COOK & HOLD pads for 3 to 5 seconds.	This safety feature prevents children from accidentally programming the oven (electronic oven control is disabled). Child lockout features must be reset after a power failure.
M1	Diagnostic code display	Press and hold MORE+ pad within 30 seconds of powering up the unit. Cycle through the codes using the MORE+ or LESS- pads.	The last 5 diagnostic codes are stored in the non-volatile memory. See " Description of Error Codes " for explanation.

— NOTES —

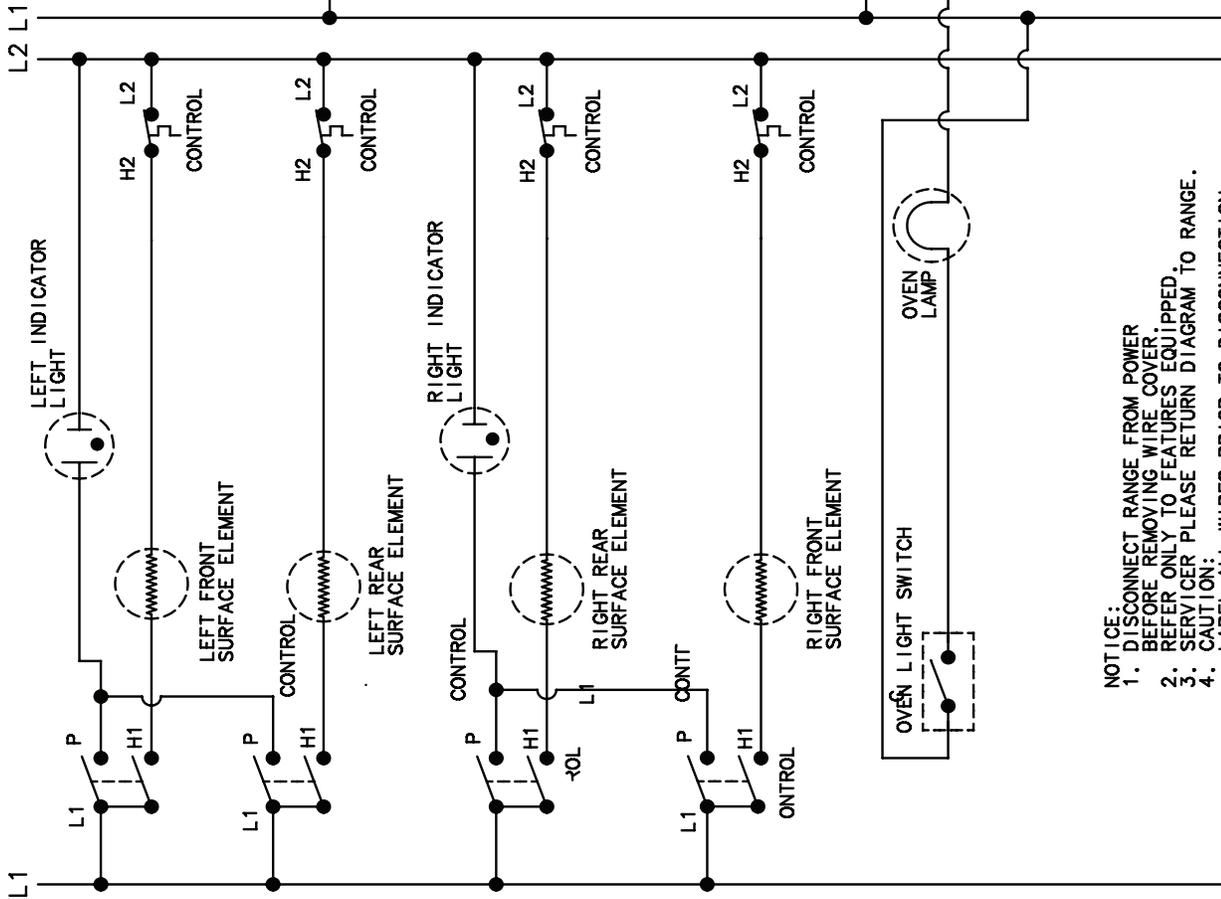
WIRING DIAGRAMS



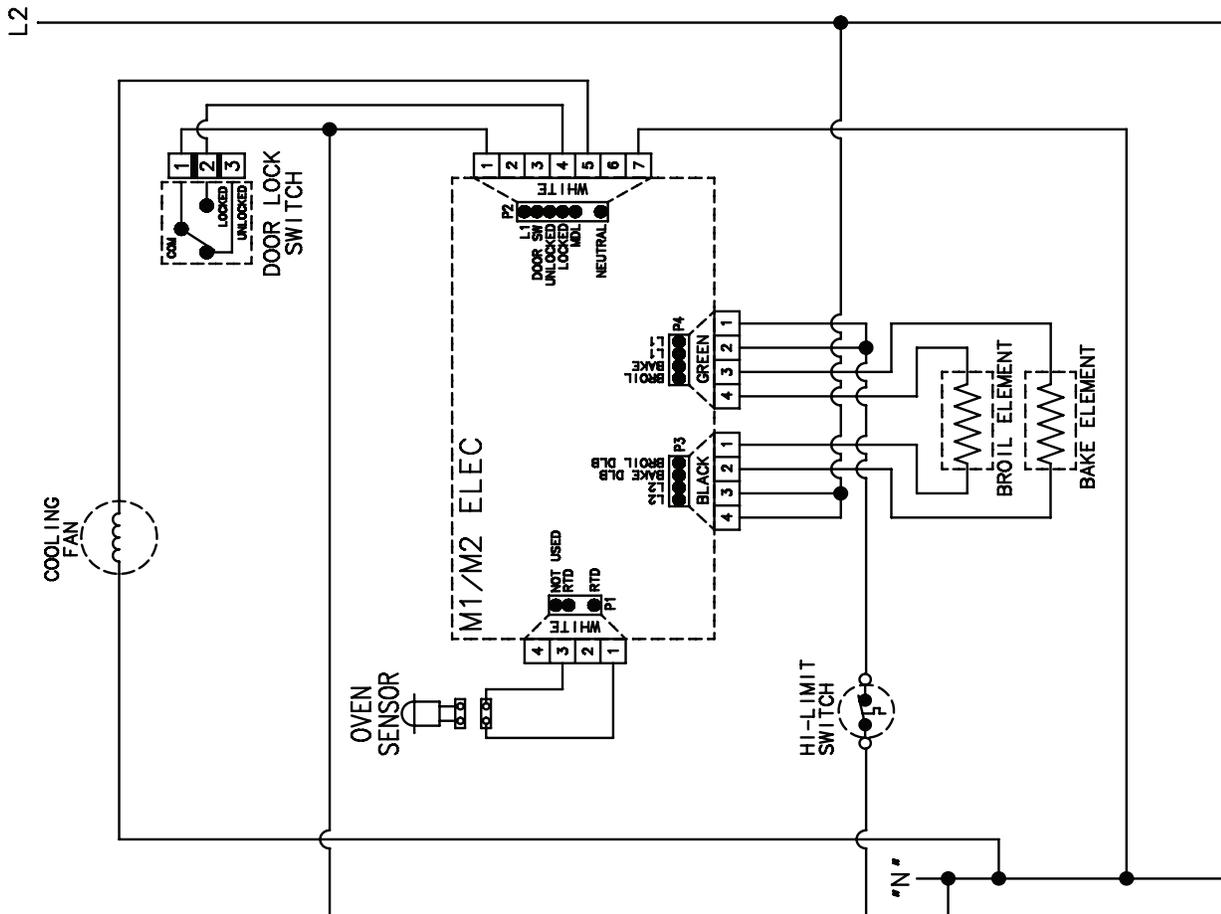
NOTICE:
 1. DISCONNECT RANGE FROM POWER BEFORE REMOVING WIRE COVER.
 2. REFER ONLY TO FEATURES EQUIPPED.
 3. SERVICER PLEASE RETURN DIAGRAM TO RANGE.
 4. CAUTION: LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING PROBLEMS CAN CAUSE IMPROPER AND DANGEROUS OPERATION.
 5. VERIFY PROPER OPERATION AFTER SERVICING.

PART NO. 8119P154-60

COOKTOP CONTROL CIRCUIT



OVEN CONTROL CIRCUIT



- NOTICE:**
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 5. VERIFY PROPER OPERATION AFTER SERVICING.

PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

FOR WHIRLPOOL PRODUCTS: 1-800-253-1301
FOR KITCHENAID PRODUCTS: 1-800-422-1230
FOR ROPER PRODUCTS: 1-800-447-6737

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

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FOR LITERATURE ORDERS:

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

IN CANADA:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

1-800-461-5681

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